

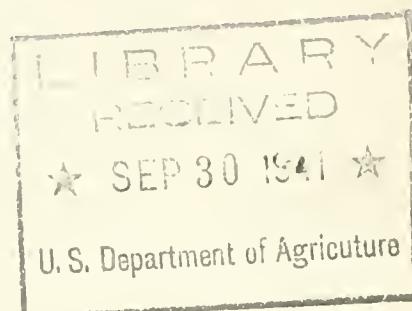
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THE INSECT PEST SURVEY  
BULLETIN



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Volume 21

September 1, 1941

Number 7

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BUREAU OF  
ENTOMOLOGY AND PLANT QUARANTINE  
UNITED STATES  
DEPARTMENT OF AGRICULTURE  
AND  
THE STATE ENTOMOLOGICAL  
AGENCIES COOPERATING



I N S E C T P E S T S U R V E Y B U L L E T I N

Vol. 21

September 1, 1941

No. 7

THE MORE IMPORTANT RECORDS FOR AUGUST

The Melanoplus mexicanus Sauss. infestation in the Sulphur Springs Valley of Arizona is one of the few instances of recent times in which this species has developed to serious outbreak numbers under purely range conditions. In addition to M. mexicanus several other species of grasshoppers occurred in the infested area in Arizona. The most numerous of these is probably Aulocara elliotti Thos., followed by several other range species. The large bush grasshopper, Schistocerca shoshone Thos., was quite numerous in certain areas and was particularly destructive in peach orchards southwest of Willcox, Ariz. In Oklahoma and Texas light infestations of second-generation M. mexicanus are apparent, but crop damage is negligible. The same condition exists in western Kansas. In the early part of August throughout central Wisconsin M. femur-rubrum Deg. had replaced M. bivittatus Say as the dominant grasshopper species. Crop damage was increasing, especially to second-growth alfalfa, and was more severe than at any previous time this year.

Mormon cricket infestations were observed during the month only in limited numbers and in localized areas in the tri-State area of Idaho, Nevada, and Oregon, and in some small agricultural areas in Sheridan County, Wyo.

White grubs caused considerable damage to lawns in New England and Middle Atlantic States southward to Virginia and to Kentucky.

The Japanese beetle occurred in unprecedented numbers during the last week in July and the first week in August in Connecticut and seriously damaged sweet corn and fruits and berries in Westchester County, N. Y. At the Virginia Truck Experiment Station over seven times as many beetles were collected in traps this year as during last season. Several new infestations were found in the Chicago area of Illinois and a single specimen was collected at Bloomington in the central part of the State.

New infestations of white-fringed beetle were reported from Escambia and Dallas Counties, Ala.

The beetle Calomycterus setarius Roelofs is now known to occur in 12 towns in Connecticut. The adult feeds on a wide variety of flowering plants. It was also recorded from New York this month.

Very heavy infestations of the false chinch bug are reported from Utah and Arizona. In Utah the insects were severely damaging alfalfa and truck crops.

The hessian fly situation is being published as a supplement to the last number of the Survey-Bulletin.

The European corn borer is generally less numerous than last year in New England, about the same as last year in western New York, and decidedly heavier than last year in southern New Jersey. In parts of Ohio and Illinois rather heavy infestations were reported, particularly on sweet corn.

The corn ear worm was increasing rapidly in late sweet corn in the Northern States. In Louisiana late corn was practically destroyed.

Heavy infestation by the alfalfa caterpillar in the San Joaquin Valley of California during late July was very rapidly terminated by an epidemic of wilt disease among the larvae.

Severe injury by the sugarcane borer is becoming apparent in localized areas in Louisiana.

During the early part of the month there was a decided increase in second-generation codling moths in New England and New York State southward to Virginia and westward to Illinois and Kentucky.

Heavy injury by oriental fruit moth is reported from eastern New York and parts of Virginia, while in the East Central States the infestation is lighter than it has been for several years.

In the Fort Valley section of Georgia plum curculio infestation by second-brood larvae was heavier than it has been recently. Similar conditions prevail in Ohio, Kentucky, and Mississippi.

Somewhat heavy infestations by the grape berry moth were reported from western New York and northern Ohio.

Considerable damage by the potato leaf hopper was reported early in the month in New York and Minnesota.

Potato aphids were more troublesome than usual on tomatoes in Connecticut and New York.

The Mexican bean beetle was reported as generally prevalent throughout New England and more troublesome in western New York than it has been for several years. Reports of damage were also received from the South Atlantic States and from Ohio to the Gulf. Hot, dry weather in the South materially cut down populations.

The boll weevil situation remains acute throughout the Cotton Belt.

The cotton leaf worm is very abundant in the Gulf region with outbreaks also reported from Arkansas, Oklahoma, and Missouri.

The bollworm is generally prevalent over the South Atlantic States and severely damaging bolls in northwestern Louisiana, Oklahoma, and the greater

part of Texas.

Cotton aphids are more numerous than they have been for several years in South Carolina, Georgia, and Florida, and in the Gulf States through Texas to Arizona.

The fall webworm was generally abundant through New England and the Middle Atlantic States westward to Ohio and Missouri.

Decided increase in abundance of the brown-tail moth is reported from Maine and New Hampshire.

The bronze birch borer caused widespread damage throughout northern and eastern Maine. This insect was also reported from parts of Ohio.

Severe damage to elms by the elm leaf beetle reported from New England, Ohio, and Kentucky.

Locust leaf miner severely browned the foliage of locusts from Connecticut southward to Virginia and westward to Ohio and Tennessee.

#### The More Important Records in Canada

##### for July-August

In Manitoba, the majority of the common grasshoppers had reached the winged stage by July 22, but up to the latter part of August no flights had been observed or reported in the Province. During July the numbers of the clear-winged grasshopper were considerably reduced by the fungous disease Empusa grylli, but other species were unaffected and light to moderate damage to grain crops occurred in many areas. A survey in August showed that this species was abundant in northern and north-eastern districts. In the Red River Valley, the two-striped grasshopper was present in menacing numbers and damaged late crops, especially barley. The general grasshopper infestation was shown by surveys to be light to moderate over the greater part of the agricultural area of the Province. In Saskatchewan, the grasshopper outbreak was reported in June to be less severe than in any season during the past decade; the lesser migratory grasshopper was practically the only species of economic importance, and up to mid-July hardly any crop damage had occurred. However, the absence of concerted efforts to use tillage or bait for control, and severe drought conditions, resulted in considerable damage developing in many areas during the latter part of July along crop margins. In August, a marked increase of grasshoppers compared with 1940 was reported over much of the Province, and damage occurred to later crops. Head damage was comparatively light, but flax suffered severely in some areas. In Alberta, rains were reported to have destroyed large numbers of grasshoppers in the spring, and these insects, particularly the lesser migratory grasshopper, were greatly reduced in numbers compared with 1940. However, some losses to grain and hay crops occurred, especially in drier areas.

One of the most severe outbreaks of the wheat stem sawfly ever recorded developed over a large part of the open prairie area in Saskatchewan and Alberta. Many fields of grain showed 100-percent infestation, and crop

losses as high as 20 percent were reported. The sawfly was also more injurious in Manitoba than for a number of years, but, in general, the infestations in this Province were not serious.

Say's stinkbug caused losses to wheat in the Turin-Taber-Wrenthan area of Alberta. Infestations were more extensive than for any season except perhaps 1938.

The beet webworm, large flights of which occurred throughout the Prairie Provinces in June, attacked sugar beets, garden crops, and alfalfa in southern Alberta in July, and some losses were reported in spite of an extensive control program. Damage also occurred in beet-growing areas of Manitoba, but this was less severe than in 1940.

During May, the so-called green peach aphid was recorded for the first time in spring colonies on wild plum in New Brunswick. The first nymphs were found on potato plants at Lindsay and St. Stephen, N. B., on June 16 and 17, constituting the earliest record of its movement to potato.

At mid-August, the European corn borer was reported to be apparently less prevalent in southern Ontario than in 1940, a year of severe outbreak. Sweet corn was averaging from 15 to 50 percent cob infestation.

The usual reports of infestation and crop damage by the imported cabbage worm and the Colorado potato beetle have been received from various districts in Canada. Apparently infestations are about average.

The pea aphid was reported infesting peas in pea-growing areas in the Gaspe, southern Quebec, eastern and southwestern Ontario, southern Alberta, and locally in British Columbia. Material damage from their attacks was noted only locally in Ontario, and in the Taber-Barnwell area of Alberta. In the latter area, in spite of control measures, the crop loss in many cases was as high as 50 percent.

The pea moth has been recorded for the first time on Vancouver Island, at Saanichton, British Columbia. It is now known to be established all over the southern coastal area of the Province.

The sweetclover weevil occurred widely in Ontario, Manitoba, and eastern Saskatchewan during June. Damage to sweetclover was severe locally.

The codling moth appeared to be equally as abundant as in 1940 in orchards in the Annapolis Valley, Nova Scotia, with an increase reported in the Berwick area. In Ontario, seasonal conditions favored an increase of this pest. In British Columbia the infestation threatened to be one of the most serious on record for that Province, both in the interior and on the coast.

Twig injury to peach by the first- and second-brood larvae of the oriental fruit moth was generally much lighter than last year in southern Ontario.

The tarnished plant bug was destructive to peach nursery stock in the

Niagara District, Ontario. Injury to peaches known as "cat-facing", which may be due to this species, was reported locally in the Okanagan Valley, British Columbia.

Grape leafhoppers are again present in outbreak form in the Niagara District, Ontario.

An extensive and heavy outbreak of the spruce budworm has developed in northern Ontario from the eastern extremity of Lake Superior, eastward to Kipawa Lake, and south to Algonquin Park. The northern limits are not yet defined, but heavy infestations occurred at Chapleau and Biscotasing. White spruce was severely attacked even in areas where there is little balsam, and mortality may be high. The outbreak of the form on jack pine appears to be on the decline in northwestern Ontario, but has increased in Saskatchewan. In Manitoba, spruce and tamarack were heavily attacked in the Spruce Woods Reserve.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

Arizona. B. M. Gaddis and assistants <sup>1/</sup> (August 3-9): Second-generation Melanoplus mexicanus Sauss. which developed only in crop land in the Stuart district of Cochise County and the Gila River Valley of Graham County, range in development from first- to fourth-instar nymphs. Populations averaged 80 per square yard in the Stuart district and slightly less in the Gila River Valley area. Second-generation M. mexicanus ranging in development from first- to fifth-instar nymphs in evidence in scattered fields in Maricopa County. M. differentialis Thos. infestations in Maricopa County were spotted and confined to field margins, roadsides, and irrigation ditches.

New Mexico. <sup>1/</sup> (July 27-August 2): M. differentialis is the dominant species and M. bivittatus Say second dominant in the Rio Grande Valley and in San Miguel and Mora Counties. Damage to alfalfa and sweet clover in San Miguel County ranged up to 40 percent total leaf injury with heavier marginal injury.

Colorado. <sup>1/</sup> (July 27-August 2): Hatching of second-generation M. mexicanus was under way in eastern Colorado, east of Elbert County. Populations were generally light and averaged less than 10 per square yard in the infested fields. M. mexicanus was 70 percent dominant in the above area and M. bivittatus and M. differentialis were next in importance. Local migrations have resulted in reductions in grainfield populations and increases in weedy fields, corn, feed crops, alfalfa, and sugar beets. Damage to date has been very light.

Texas. <sup>1/</sup> (July 27-August 2): First-, second-, and third-instar nymphs of second-generation M. mexicanus were present in the Texas Panhandle in small numbers. General populations in Randall, Collingsworth, Wheeler, Hemphill, Potter, Carson, and Armstrong Counties averaged light in intensity. M. mexicanus represented 80 percent of the grasshoppers present and M. differentialis 15 percent. Damage was very light due to the excellent condition of the vegetation. (August 3-9): A survey of the northern tier of counties in the Texas Panhandle showed a general, light infestation of first-generation adult M. mexicanus. A light infestation of second-generation M. mexicanus nymphs, averaging 5 per square yard, was present.

Oklahoma. <sup>1/</sup> (August 3-9): Light populations of second-generation M. mexicanus were reported in Cimarron, Harper, and Texas Counties in northwestern Oklahoma. First-, second-, and third-instar nymphs averaged 5 per square yard in the infested areas in these counties.

Kansas. <sup>1/</sup> (July 27-August 2): Only very light, minor flights of M. mexicanus were observed during the week. Second-generation M. mexicanus was observed west of Ness County. Populations were lighter than in

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<sup>1/</sup> Where no name is given after the State the report is by B. M. Gaddis and assistants.

1940 but were scattered over a larger area. Damage to corn was noted in Phillips, Smith, Osborne, Rocks, Ellis, and Russell Counties. This type of damage was caused by M. bivittatus and M. differentialis.

(August 3-9): A light hatching of second-generation M. mexicanus was reported in the northwestern counties of Norton, Cheyenne, Decatur, and Rawlins; concentrations did not exceed 3 or 4 per square yard in margins, and were less than 1 per square yard in stubble fields. In Sherman, Thomas, and Sheridan Counties, marginal counts ran as high as 7 or 8 per square yard in isolated cases while field counts were as high as 3 per square yard. Lighter populations were observed in Gove, Logan, Trego, and Wallace Counties. Second-generation M. mexicanus nymphs averaging less than 5 per square yard were reported in the southwestern counties west of Seward County. Crop damage was confined mainly to corn and in irrigated valleys to alfalfa.

Nebraska.<sup>1/</sup> (August 3-9): Marginal damage to corn was becoming increasingly apparent in the section of the State from Hall County eastward along the Platte River. Severe damage to alfalfa was reported in Hamilton, Seward, and York Counties where 100-percent defoliation to entire fields was noted in several instances. Second-generation M. mexicanus were observed in southern Nebraska from Seward County westward to Cheyenne County. Field populations ranged up to 20 per square yard and marginal populations up to 35 per square yard.

Arkansas.<sup>1/</sup> (July 20-26): Infestation in northeastern Arkansas was found to be limited to the area between the Mississippi and Saint Francis Rivers with populations somewhat heavier in the immediate vicinity of the Mississippi River. Populations were widely scattered, from 90 to 100 percent being M. differentialis, of which 90 percent were adults.

Missouri.<sup>1/</sup> (July 20-26): M. differentialis, the dominant species, comprising 90 to 100 percent of the populations in southeastern Missouri, was 90 percent adult.

H. E. Brown (August 29): A few ovipositing females of M. bivittatus are still present at Columbia. Practically all individuals of M. differentialis are now adult. Populations over the State generally are too low for satisfactory collecting for adult survey.

Iowa.<sup>1/</sup> (August 3-9): Grasshopper infestations in the western half of Iowa were revealed by the survey to be highly spotted with M. mexicanus distributed generally over southwestern Iowa, M. femur-rubrum Deg., the dominant species in northwestern Iowa, and light populations of M. differentialis, occurring occasionally along the Missouri River Valley. Second-generation M. mexicanus were present over the southwestern portion of the State.

Minnesota.<sup>1/</sup> (July 20-26): Infestations in the east-central portion of the State were reported very spotted and of little economic importance; M. femur-rubrum, the dominant species, was mainly in the third instar. In southwestern Minnesota, 70 percent of M. differentialis and 100 percent M. bivittatus were adults, the heaviest and most serious infesta-

tions occurring in Pipestone and western Murray Counties. Infestations in southeastern Minnesota were found to be of noneconomic importance with M. femur-rubrum still hatching and the majority of the grasshoppers second-, third-, and fourth-instar nymphs. Local dispersal of M. bivittatus, M. mexicanus, Carnula pollucida Scudd., and M. packardii Scudd. was continuing in northwestern Minnesota. Marginal damage to grainfields was moderately severe in portions of Marshall and Kittson Counties.

(July 27-August 2): Very warm, dry weather conditions persisted over most of Minnesota during the week, causing considerable drying of pastures and marginal vegetation. Grasshoppers were moving into the greener, late crops and damage was beginning to show in corn, alfalfa, and flax. Twenty-five percent of the M. femur-rubrum and 75 percent of the M. differentialis were in the adult stage.

<sup>1/</sup> North Dakota. (July 20-26): Grasshoppers in Grand Forks, Walsh, and Pembina Counties in northeastern North Dakota were 90 percent adult, while infestations in other counties in that section of the State contained a large percentage of third-, fourth-, and fifth-instar nymphs. Marginal vegetation was beginning to dry and grasshoppers were scattering. Damage was believed to be less than 2 percent for the area as a whole. In the southwestern counties the dominant species was M. mexicanus. With the drying of marginal and idle land vegetation, grasshoppers were moving into fields, causing some damage to corn, wheat, oats, and flax. Crop damage in Emmons County is estimated at 20 percent, in Sioux County at 18 percent, and in Grant County at 8 percent. Damage in other areas has been negligible. Light populations were reported in the northwestern North Dakota counties of Burke, Divide, McKenzie, and Williams. (July 27-August 2): M. differentialis was the dominant grasshopper in Martin, Sioux, and Emmons Counties in south-central North Dakota, where approximately 85 percent of the grasshoppers were adult. In the east-central portion of the State, 80 percent of the grasshoppers present were adult, and many fields were beginning to show considerable leaf damage. (August 3-9): Ninety percent of the grasshoppers in northeastern North Dakota have reached the adult stage and copulation and oviposition are in progress.

<sup>1/</sup> South Dakota. (July 27-August 2): Populations were nearly 100 percent adult in the State as a whole. The grasshoppers were beginning to settle down and only slight shifts were observed during the week. All of the major species were ovipositing and M. bivittatus had reached the peak. The small-grain harvest was practically completed and haying was well under way. Considerable damage to corn occurred from the dry, hot winds as well as from grasshoppers.

<sup>1/</sup> Montana. (July 27-August 2): Adult M. mexicanus were working on wheat and oat crops in Toole County but the harvest was well under way and should be completed before any severe damage occurs. In southern Montana, approximately 75 percent reached the adult stage. M. mexicanus was the dominant species with M. bivittatus and M. differentialis second in importance. Adult dispersals changed the situation from a spotted to

general infestation. Limited areas in western Montana were experiencing difficulty with grasshoppers and some bait was spread as damage became apparent.

Wyoming. <sup>1/</sup> (July 27-August 2): M. femur-rubrum was the dominant species in the Big Horn Basin area and comprised 75 percent of the total population. Earlier in the season, M. bivittatus had been the dominant species. Approximately 50 percent of M. femur-rubrum were in the fourth and fifth instars. Active oviposition by M. bivittatus was observed.

B. T. Snipes (August 11): Heavy populations of M. femur-rubrum still exist in Park and Big Horn Counties, where the grasshopper build-up is at its peak. All species are considerably less numerous in other Wyoming counties. Small local flights of M. mexicanus have been observed in Sheridan County.

Idaho. <sup>1/</sup> (July 27-August 2): M. femur-rubrum is the dominant species in Cassia County. M. mexicanus is the dominant species in Gem, Ada, and Elmore Counties, where threatening populations are still present. Practically all in the adult stage. (August 3-9): Survey in Adams, Canyon, Gem, Payette, and Washington Counties in western Idaho disclosed M. mexicanus populations to average 3 per square yard in all Bromus tectorum range areas. Practically all were adults.

Utah. <sup>1/</sup> (July 20-26): M. bivittatus, M. mexicanus, and M. packardii were the species continuing to cause most of the damage in central, north-central, and south-central Utah. Approximately 80 percent of the grasshoppers were adults. Severe marginal defoliation of alfalfa was reported in many localities in these sections of the State. Light to severe injury to oats, sugar beets, second-growth alfalfa, berry, and orchard crops was reported in various localities. (July 27-August 2): M. bivittatus was the dominant species in the irrigated sections of central and southwestern Utah. M. packardii and M. mexicanus predominated in the dryland farming and benchland areas of the State. Approximately 90 percent were in the adult stage. Severe damage occurred on alfalfa in Juab, Beaver, Millard, Salt Lake, Davis, and Cache Counties. In the latter three counties, general migrations of M. mexicanus occurred from range and idle land into the more succulent cultivated crops.

Nevada. <sup>1/</sup> (July 20-26): With the exception of the Baker area in White Pine County, crop damage in all areas was negligible. In the Baker area, some damage to second-growth alfalfa, corn, and small grains was occurring. M. occidentalis in Nye and Lander Counties were scattering and oviposition generally in progress. A large band of this species, which originated this spring near Dunphy, Eureka County, was located north of Battle Mountain, the migration having covered some 35 to 40 miles this season. Egg pods averaging 12 per square foot were found over a 5-mile area in this district. (July 27-August 2): One hundred and twenty acres of alfalfa and oats in the Pilot area of Elko County was infested with an average of 30 grasshoppers per square yard. M. packardii, M. bivittatus, and M. mexicanus were the species involved.

California. O. G. Bacon (July 22): M. devastator Scudd. caused some damage to dry, first-crop Mission figs on the ground and in a drying yard at Round Mountain. Holes were chewed in the figs, causing them to be classed as culs. Insects were numerous on the highway near the Grey Colony School, east of Fresno, having migrated from grain stubble.

Wisconsin. B. M. Gaddis (July 27-August 2): The dominant species still M. bivittatus, with M. femur-rubrum showing up heavily in spots. Considerable damage was done to second-growth alfalfa and clover hay fields.

Farmers were not alarmed, however, due to the bumper first crop of hay.

(August 3-9): Throughout central Wisconsin, M. femur-rubrum replaced M. bivittatus as the dominant species. Crop damage was increasing, especially to second-growth alfalfa and red clover, and was more severe than at any previous time this year.

<sup>1/</sup> Michigan. (July 20-26): Crop damage was reported becoming more acute in the northwestern portion of the Lower Michigan Peninsula. Harvesting of small grains was well under way, resulting in movement of the grasshoppers to other crops. Heavy damage occurred to oats, rye, alfalfa seedings, and beans. A total loss of alfalfa seedings occurred in several instances and 20 percent loss to rye was reported due to destruction of ripening seed. Some corn damage was beginning. (August 3-9): Grasshopper development in the northern portions of the Lower Michigan Peninsula was well advanced with more than 80 percent of the grasshoppers in the adult stage.

Ohio. T. H. Parks (August 26): Serious local outbreaks occurred throughout central and southern Ohio during July and August. Complaints were most numerous during the first week of August.

Kentucky. M. L. Diddlake (August 26): Grasshoppers still reported as numerous and destructive to field crops, vegetables, and flowers.

Pennsylvania. H. M. Worthley (August 19): On August 13 a young apple orchard in Aspers, Adams County, was observed as practically defoliated by red-legged grasshoppers, M. femur-rubrum, which rose in clouds from the stubble of a recently cut cover crop. Damage was noted on low-hanging foliage and fruit of apple in nearby sodded orchards. H. M. Steiner, of Arendtsville, Adams County, reported increasing damage by this species to ripening peaches in cover-cropped orchards.

Rhode Island. B. Eddy (August 28): Infestation by the grasshoppers M. femur-rubrum and Dissosteira carolina L. is unusually heavy throughout the State.

#### MORMON CRICKET (Anabrus simplex Hald.)

South Dakota. B. M. Gaddis (July 20-26): Reported as concentrated along margins and fencerows with little movement. Egg deposition was increasing, an estimated 12 percent having completed oviposition.

Montana. <sup>1/</sup> (August 3-9): The majority of the Mormon crickets in the infested areas in Beaverhead County were in the adult stage. In Big Horn County, in south-central Montana, migrations were sporadic and oviposition was well advanced excepting in the foothills of the Big Horn Mountains and in the Wolf Mountains, in which areas egg deposition was just beginning.

Wyoming. <sup>1/</sup> (July 20-26): Heavy oviposition was reported in Hot Springs County, egg deposition occurring much nearer crop lands than in 1940. No migrations constituting a threat to crop lands occurred. Oviposition was general in Sheridan County but had not yet been noted in Crook County. (July 27-August 2): Migrations occurred during the week in the Kirby Creek area of Hot Springs County with some additional damage to crested wheat, corn, and small grains.

Idaho. <sup>1/</sup> (July 27-August 2): Migrations of crickets took place in Clark County on Middle and Crooked Creeks during the week. The migration in Fremont County had changed its course and slowed down. Oviposition was practically completed in the lower counties of eastern Idaho.

Utah. G. F. Knowlton, et al. (August 2): Approximately 75 percent of the eggs have been laid in the Tooele, Juab, and Utah County areas, where remnants of small cricket bands can still be found. A Palnodes wasp has destroyed many in local areas.

California. C. C. Wilson (August 14): Outbreak reported in the Plumas National Forest. Infestation covers an area of approximately 480 acres in a mountainous section, ranging in elevation from 6,000 to 6,800 feet. Crickets ranged from less than 1 to 8 per square yard, probably averaging 2 per square yard. Oviposition was in progress on August 5, and examination of soil samples indicated an average density of 29 eggs per square yard. Crickets were more abundant around bitterbrush and big sagebrush, and marked feeding was observed on the crowns and roots of Poa sp., woolly mulesears, and nettleleaf horsemint.

#### EUROPEAN EARWIG (*Forficula auricularia L.*)

Massachusetts. A. I. Bourne (August 28): The first week of August we received a report, accompanied by specimens, of the occurrence of carwigs from the town of Marshfield, which represents a considerable expansion, along the shore line north of Plymouth, of the infestation which has been present in eastern Massachusetts.

Rhode Island. B. Eddy (August 28): Infestation of the European earwig was very heavy in Newport County and medium in Westerly.

Utah. G. F. Knowlton (August 2): Causing annoyance to persons at Farmington.

WHITE GRUBS (Phyllophaga spp.)

Vermont. H. L. Bailey (August 29): White grubs are very abundant. Reports of especially bad damage to grass and strawberry plants at Waterbury, East Montpelier, central Vermont, and from Bakersfield, Franklin County, in the northwestern part of the State.

Massachusetts. E. P. Felt (August 15): Have caused considerable injury to lawns in Great Barrington and Egremont.

Massachusetts. A. I. Bourne (August 28): Late summer has been marked by an unusually large number of complaints of the presence of white grubs in lawns on private estates, golf greens, and even in mowing fields. Areas sampled showed a large population of grubs to the square foot. In many cases the grass roots were completely eaten away so that large areas of the sod could be rolled back like a carpet. In spite of this the rainfall in some sections of the State has been sufficient so that the sod had not been dried out.

Connecticut. J. P. Johnson (August 23): Injury reported as occurring on more turf than in the last several years at Sharon, Litchfield, Woodbridge, Bethany, Avon, Branford, Madison, and Mansfield.

New York. F. Z. Hartzell (August 26): Injury is quite widespread but most prevalent within a radius of 30 miles from Geneva.

Virginia. W. J. Schoene (August 5): P. cephilida Say specimens received from Lowington, Nelson County, with statement that they were found on an apple tree in great swarms, and that there were thousands of them. (Det. by E. A. Chapin.)

Kentucky. M. L. Diddake (August 26): White grubs, principally P. hirticula Knoch, severely injured a number of bluegrass pastures in Fayette County during July and early August.

JAPANESE BEETLE (Popillia japonica Newm.)

Massachusetts. A. I. Bourne (August 28): By the last week of July we received numerous reports of Japanese beetle being present in considerably greater abundance in this general section than was the case last year. Apparently conditions at the critical time last summer were very favorable for the deposition of eggs, and we have experienced the anticipated increase in beetle abundance this year.

Connecticut. J. P. Johnson (August 23): Foliage damage was considerably greater than in previous years. The insect is now appearing in more rural areas. On July 30 and 31 a considerable delayed emergence took place after rains. Number of beetles emerging was very noticeable as thousands were observed on golf courses and turf in parks.

Rhode Island. B. Eddy (August 28): Japanese beetle is 50 percent heavier this year and spreading somewhat to new areas.

New York. N. Y. State Coll. Agr. News Letter (August 4): This is the first year that commercial growers in Westchester County have had serious trouble with Japanese beetle affecting sweet corn. The beetle destroyed 85 percent of the raspberries. Reported that private estates did not harvest over 50 percent of blackberries owing to beetle damage. Both large and small estates, together with one known commercial fruit grower with 90 acres in the lower end of the county, are taking out their grapes and peach and plum trees on account of the crops being destroyed by beetles. Reported as occurring in small numbers in up-State counties.

Pennsylvania. B. F. Coon (August 9): Heavy population appears to be over, with females beginning their oviposition. Injury to some crops at Lancaster has been heavy, but due to early spring emergence, some crops are escaping serious injury.

Virginia. L. D. Anderson (August 20): Catch in 24 traps at the Virginia Truck Experiment Station stands at 12,026 to date, as compared with a total of 1,580 beetles caught during the 1940 season, an increase of 7.6 times. Beetles are now very scarce.

Illinois. C. C. Compton (August 23): New record of infestation found in Highland Park, Lake County, north of Chicago, and up to August 12 over 4,000 specimens had been taken in that vicinity. Scattered new infestations have also been noted in Chicago. The situation in East Saint Louis remains unchanged. Single specimen reported from Bloomington, which is a new record for central Illinois.

A WEEVIL (Calomycterus setarius Roelofs)

Connecticut. J. P. Johnson (August 23): Now occurs in at least 12 towns in Connecticut. Observed feeding on 41 species of plants to date, and favorite hosts seem to include many of the plants found in flower gardens and certain woods. Reported as migrating into houses, a total of 2,400 being collected from 1 window well, while many others were observed in 2 other window wells of the same building.

New York. R. St. George (August 21): In the middle of July thousands of these weevils appeared in a frame house at Montauk Point, on Long Island. (Det. L. L. Buchanan.)

WHITE-FRINGED BEETLE (Pantonorus leucoloma Boh.)

Florida. L. J. Padgett (August 5): Two new infestations were reported from the Florala area.

A NITIDULID (Glischrochilus fasciatus Oliv.)

Illinois. C. L. Metcalf (August 23): Number of specimens submitted from De Kalb County, in northern Illinois, where they were found feeding extensively on the fruits of corn, beans, green peppers, tomatoes, and apples.

WIREWORMS (Elateridae)

North Dakota. J. A. Munro (August 22): Prairie grain wireworm, Ludius aerecipennis Kby., is causing serious injury to potatoes in the Park River and Cando areas. Developing tubers in a field at Park River showed nearly 100-percent injury.

Utah. G. F. Knowlton (July 26): Adults of Hemicrepidius carbonatus Lec. are numerous and flying about east of Logan. (August 6): Wireworms are causing injury to sugar beets in a field at Lewiston.

California. M. W. Stone (August 19): From one to five sugar-beet wireworms, (Limonius californicus Mann.) were found feeding on interior of stems of dying lima bean plants in a field at Oxnard.

VARIEGATED CUTWORM (Peridroma marginata Haw.)

Minnesota. H. E. Milliron (August 13): Moderately abundant at Saint Paul and Minneapolis, feeding in the hearts of celery.

Wyoming. B. T. Snipes (August 1): Damage slight to alfalfa by P. marginata and Agrotis ypsilon Rott. in Evanston, Uinta County. (Det. by C. Heinrich.)

Utah. G. F. Knowlton (July 22): Damaging alfalfa in several localities in Carbon County. Many are pupating in Carbon County and in Emery County localities. (July 31): Severely injured many alfalfa fields at Grouse Creek. Many worms are now approaching maturity. (Det. by C. Heinrich.) (July 25): Damaging alfalfa in several Beaver County localities. (August 2): Causing moderately severe injury to lettuce, carrots, and cauliflower, as well as alfalfa, in areas north of Beaver. (August 5): Damaging approximately 600 acres of alfalfa in the Angle area of Piute County, and 40 acres at North Creek near Beaver, in Beaver County. (August 13): Damaged 50 acres of alfalfa at Lasal, in San Juan County.

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli Guen.)

Minnesota. H. E. Milliron (August 13): Moderately abundant on onion leaves in South Minneapolis. Occasionally on asparagus in same general locality.

Texas. W. C. Maxwell (August 14): Caused considerable damage to foliage of petunias, and buds of zinnias, and marigolds in a dooryard planting in Robstown, with such damage occurring over a period of several weeks. Also observed feeding on leaves and inside white bloom of cotton.

SOUTHERN ARMYWORM (Prodenia eridania Cran.)

Georgia. T. L. Bissell (August 4): Feeding lightly on velvetbeans at Sandersville, east-central Georgia.

GLASSY CUTWORM (Crymodes devastator Brace)

Maine. A. E. Brower (August): Heavy flight of moths at Augusta.

ARMYWORM (Cirphis unipuncta Haw.)

Virginia. L. D. Anderson (August 20): Several heavy infestations have appeared in grassy soybean and cornfields in the Norfolk area during the month.

Minnesota. M. W. Wing (August 20): Moderately abundant at Saint Cloud and Glenwood.

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis Hbn.)

Georgia. T. L. Bissell (August 25): Caterpillars, probably this species, reported on peanuts at Savannah, on August 11.

Louisiana. C. O. Eddy (August 25): Reported in spots in a number of places in northern, central, and southern Louisiana.

BEET WEBWORM (Loxostego sticticalis L.)

Utah. G. F. Knowlton (August 2): Attacking beets, gardens, and alfalfa in several northern Utah localities.

FALSE CHINCH BUG (Nysius ericae Schill.)

Utah. G. F. Knowlton (July 22): Nymphs abundant on Russian-thistle and other weeds around gardens at Manti. (July 27): Extremely abundant at Heber and in the Vernon Creek area. (August 3): Severely damaging alfalfa, peas, and turnips at North Creek near Beaver. (August 18): Very heavy population infesting a flower garden at Logan.

Wyoming. B. T. Snipes (July 29): Principal damage by the false chinch bug occurred in seed radish fields in the Big Horn Basin, Sheridan and Goshen Counties. Damage negligible, being 15 to 20 percent.

Arizona. C. D. Lebert (August 21): Bugs are coming off the desert by the millions and invading houses in the Camelback Resort Area at Phoenix. Observed in piles one inch deep around windows and doorsills of a residence, and also getting into houses by the thousands.

LEAF-CUTTER BEES (Megachile sp.)

Utah. G. F. Knowlton (August 24): The most damaging and extensive injury by leaf-cutter bees, ever observed by the writer, noticed today at Howell, in Box Elder County. Rose and Virginia creeper leaves were badly "riddled" by the bees, with some damage also evident to flowering almond, four-o'clocks, and snowberry bush foliage.

C E R E A L A N D F O R A G E - C R O P I N S E C T S

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

General. The Hessian fly situation is being published as a supplement to the Insect Pest Survey Bulletin, No. 6, August 15, 1941.

WHEAT JOINTWORMS (Harmolita spp.)

Ohio. T. H. Parks (August 26): At the conclusion of the wheat insect survey the jointworm (H. tritici Fitch) infestation varied from 1 to 22 percent in the 27 counties visited. Average percentage of straws infested was 8.1 percent, as compared with 8.7 percent in 1940. No serious loss occurred in any field. Wheat stems infested with H. vaginicola Doane were received from Morrow County, north-central Ohio, with statement that a field of wheat suffered almost total loss.

WHEAT STEM SAWFLY (Cephus cinctus Wart.)

Montana. H. B. Mills (August 25): Considerably more abundant on wheat in the northern tier of counties and in the triangle area north of Great Falls, Cascade County, than it has been for several years.

WHEAT HEAD ARMYWORM (Helcucania albilinea Hbn.)

Michigan. E. I. McDaniel (August 15): Reported as very numerous in several places in Grand Traverse County.

CORN

EUROPEAN CORN BORER (Pyrausta nubilalis Hbn.)

Massachusetts. A. I. Bourne (August 28): The first brood of the European corn borer was very light throughout most of the State. Thus far, the second brood does not seem to be up to normal.

A. M. Vance (August): At a low level in early sweet corn in Middlesex County in 1941, where an average of only 0.2 borer per plant occurred in 25 fields examined.

Rhode Island. B. Eddy (August 28): Relatively light this year.

Connecticut. A. M. Vance (August): Much less abundant in early sweet corn near New Haven in 1941, where the average number of borers per plant in 25 surveyed fields was 1.1 as compared with 5 in 1940.

N. Turner (August 22): Much less abundant than usual in southern Connecticut. Very little infestation in some fields of late sweet corn. Eggs of the second generation appear in small numbers.

New York. L. A. Carruth (August 4): In the Hudson Valley, a few second-generation eggs have been laid although the rate of oviposition was low last week owing to weather conditions. In the Syracuse area our test piece averaged between 6 and 7 borers per plant in the untreated area. Apparently about 5 percent of the borers pupated in that area. A test field near Rochester showed nearly 10 borers per plant in the untreated area this week while one in Niagara County a week ago showed an infestation of about 16 borers per plant in the checks. A few scattered fields on Long Island showed some first-generation borer injury, although most of the early corn has been much cleaner than usual of all insect injury.

G. E. R. Hervey (July 28): In western New York, the situation appears to be about the same as last season. Infestation is rather general and varies in intensity in different fields. Observations show that the most serious infestations are in Niagara County. In one field in this area there is an average of about 15 borers per plant, which means practically a total loss. Borers are in all stages of growth. Found about 3 to 4 percent pupation of the first brood around Syracuse and just a trace of pupation in Niagara County.

New Jersey. A. M. Vance (1941): Early market sweet corn in western Burlington County more heavily infested than in 1940. In a survey of 29 of the earliest and most heavily infested fields in the same county, S. D. Carter found an average of 3.9 borers per plant in 1941, as compared with 5.1 in the same number of fields in that section in 1940. In 9, or 31 percent of the New Jersey fields, the corn was infested with from 11 to 19 borers per plant.

Ohio. T. H. Parks (August 26): Average populations up to 8 borers per stalk are being found in some of the most susceptible hybrid strains of corn. Some had transformed to the pupal stage by the middle of August, which will result in numbers of second-brood moths by September. Infestation over northwestern Ohio is somewhat lighter than in 1940.

A. M. Vance (1941): Early market sweet corn in the vicinity of Toledo more heavily infested than in 1940. At Toledo, the average number of borers per plant in 25 fields of early sweet corn in 1941 was 12.4 in comparison with 5 in 1940. In 15, or 60 percent of the fields examined, the corn contained 10 to 18 borers per plant. One of the fields observed near Toledo averaged 31 borers per plant and another 25.

Illinois. C. C. Compton (August 23): Two-brooded form has shown a marked increase in the area around Wichert in Kankakee County, and Des Plaines in Cook County. Most of the larvae had pupated by the end of the first week in August, and in many cases second-brood moths had emerged.

Michigan. A. M. Vance (1941): Five fields of sweet corn near Erie averaged 10.7 borers per plant.

CORN EAR WORM (Heliothis armigera Hbn.)

New York. N. Y. State Coll. Agr. News Letter (August): In eastern New York, in Westchester County, the corn ear worm was causing damage of about 10 percent on August 4, and in western Suffolk County on August 11 it was increasing in numbers, being present in the tips of the corn, and mainly in the young larval stages. In western New York larvae were just beginning to appear in Erie County on August 19.

Maryland. C. Graham (July 30): Present at Bel Air and Towson on corn plantings.

L. P. Ditman (July and August): Moths increasing generally in sweet corn fields.

Ohio. E. W. Mendenhall (August 28): Corn ear worms are quite general in sweet corn and causing considerable damage.

Missouri. E. E. Brown (August 29): Sweet corn maturing August 7-16 was 32 percent infested. Some damage, not serious, has been noted to tomatoes.

Minnesota. A. G. Ruggles, et al. (August): Moderately abundant on sweet corn on August 12, and during the latter part of July in Saint Paul and Minneapolis.

Nebraska. O. S. Bare (August 13): Reported as damaging beans in Garden County and tomatoes in York and Merrick Counties on July 19 and August 5. Also reported as being numerous and damaging corn and tomatoes in Lancaster County during the period from July 16 to August 13.

Texas. K. P. Ewing et al. (July 26): At Riesel, in McLennan County, 3,600 ears of corn inspected showed an average of 54.6 emergence holes per 100 ears. (August 2): Out of 3,600 ears of corn inspected the average was 75 holes per 100 ears.

Montana. D. J. Pletsch (August 20): Rather general infestation on corn at Helena, Bozeman, and Billings.

Utah. G. F. Knowlton (July 25): Attacking field corn ears, and have damaged most tassels. (July 29): Very destructive in sweet corn. All untreated patches heavily infested. Infesting 25 percent of the field corn examined at Roy. (July 31): One hundred percent of the ears of corn examined in a patch at Logan were infested. (August 2): All sweet corn examined at Logan, Hyrum, and Wellsville, was infested by the corn ear worm, usually more than one larvae being present per ear. (August 4): Seriously attacking sweet corn at Pleasant Grove and Orem, and damaging sweet and field corn at Grantsville. (August 12): Injury has lessened generally during the last 10 days, although large percentages of the sweet corn are still infested. (August 23): Damaging sweet corn at Mendon, and 70 percent of the ears infested in a patch examined east of Murray.

FALL ARMYWORM (Laphygma frugiperda A. & S.)

Maryland. L. P. Ditman (August): Attacking curl of corn at Beltsville.

Virginia. L. A. Hetrick (August 25): Completely ruined a field of corn planted about July 15 at Williamsburg.

Georgia. T. L. Bissell (August 12): Damaging late corn in Spalding County. (August 25): Few worms found in pods of pimiento pepper.

Mississippi. C. Lyle, et al. (August 23): Reported as damaging late corn in Lafayette and Marshall Counties and in the Meridian territory. Found to be very numerous on the ears of late corn in some fields in Oktibbeha County on August 21.

Louisiana. C. O. Eddy (August 25): The grass worm, together with two or three other caterpillars, has almost totally destroyed some late corn.

Tennessee. G. M. Bentley (August 25): Causing considerable damage to Sudan grass, millet, and soybeans in Hamilton and Bedford Counties.

SOUTHWESTERN CORN BORER (Diatraea grandiosella Dyar)

Oklahoma. R. G. Dahms (August 22): Caused severe damage in some cornfields in southwestern Oklahoma. Observations show that fields in northern Caddo County have been the most heavily infested.

F. E. Whitehead (August 23): Reported as causing severe injury in the vicinity of Lookeba in Caddo County, and Alva in Woods County.

STALK BORER (Papaipema nebris nitela Guen.)

Illinois. C. L. Metcalf (August 23): Appears to be unusually common in northeastern Illinois, infesting corn, hollyhocks, dahlias, and other garden plants.

Minnesota. M. W. Wing (August 20): Moderately abundant on potato at Mountain Lake and Le Center.

E. E. Milliron (August 13): Scarce in the stalks of sweet corn at Saint Paul and Minneapolis.

CHINCH BUG (Blissus leucopterus Say)

Missouri. P. C. Stone (August 29): Chinch bugs are present in most areas. The second brood is causing injury to corn in the west-central part of the State, and a combination of drought and bugs will cut down the corn yield considerably in places in northern Missouri. The majority of the second-generation bugs in the central part of the State are now in the third and fourth instars, although some have reached the adult stage.

Kansas. W. T. Emery (July 17): Flights to row crops have been conspicuous in the Big Blue River Valley of Riley County. Weather conditions necessitated replanting of corn and sorghum crops in this area, and early in July a heavy infestation of winged chinch bugs was found destroying the young corn and sorghum plants in the more sandy soils, several acres in extent, while the larger parts of the fields were in general thoroughly infested. First-instar bugs had begun to appear by July 17.

Oklahoma. R. G. Dahms (August 22): Second generation is very abundant on sorghums in the southwestern part of the State. Infestation reached a peak too late to kill many sorghum plants, but they are causing severe shriveling of the grain in some late-planted fields.

#### CORN LEAF APHID (Aphis maidis Fitch)

Ohio. T. H. Parks (August 26): Infestations are local and spotted, but are not as serious generally as last year.

Utah. G. F. Knowlton (August 4): Attacking some corn plants at Grantsville.

#### A PLANT BUG (Chlorochroa uhleri Stal)

North Dakota. J. A. Munro (August 22): Cornfields examined in the Hague and Strasburg vicinities in Emmons County on August 14 were infested at the rate of about 11 bugs per corn plant. In the southwestern counties the insect is very scarce as compared with last year, the reduction evidently being due to a tachinid parasite which was present in about 80 percent of the bugs in this area. Parasites were not encountered in the Hague and Strasburg vicinities.

#### CORN ROOTWORMS (Diabrotica spp.)

Kentucky. M. L. Dillake (August 26): Southern corn rootworm (D. duodecimpunctata F.) damaged corn at Marion on August 8.

Nebraska. O. S. Bart (August 13): Adults of the northern corn rootworm (D. longicornis Say) were received from Wayne County on August 12. Reported as causing serious damage to corn.

#### A SYRPHID (Mesogramma politum Say)

Illinois. C. L. Metcalf (August 23): A serious infestation of field corn in Douglas County, east-central Illinois, in August, 252 larvae of all sizes and a few pupae having been collected from the tassels and top-most 5 leaves of a single stalk of corn. This sporadic insect has taken on new significance with the development of the hybrid-corn industry. The larvae eat the pollen and suck sap from the superficial cells in the axils of the leaves, and in this instance they were especially abundant on a particular variety being grown for the pollination, artificially, of hybrids. So much of the pollen was destroyed that the crop was practically useless for pollination purposes.

A SILK BEETLE (Luperodes sp.)

Louisiana. C. O. Eddy (July 24): Abundant in north-central Louisiana since about June 10. Small numbers of the adults are parasitized by the fly Anedoria luctuosa Meig.

ALFALFA

PEA APHID (Macrosiphum pisi Kltb.)

Utah. G. F. Knowlton (July 17): Less abundant than they were a few weeks ago on alfalfa and peas throughout northern part of the State. (August 2): Only moderately abundant to scarce in most northern Utah alfalfa fields examined recently.

ALFALFA CATERPILLAR (Colias eurytheme Bdv.)

Arizona. F. H. Parker (August 22): Adults flying over and between alfalfa fields in the Salt River Valley in immense numbers. Motorists annoyed by cars overheating due to butterflies lodged on radiators.

Utah. G. F. Knowlton (August 5): Butterflies very abundant around alfalfa fields at Grantsville. (August 7): Butterflies flying in moderate abundance over alfalfa fields at Howell. (August 12): Butterflies are abundant at Mantua in and around alfalfa fields.

California. A. E. Michelbacher (August 25): Serious outbreak in the northeastern part of the San Joaquin Valley. In one field the number of larvae collected to the 100 sweeps of an insect net exceeded 12,000. The field was first examined on July 29, and at this time a very few of the larvae were infested with a wilt disease. On August 2, 75 percent of the larvae had been killed by the wilt, and the remainder were infested. On August 6 the number of larvae collected to the 100 sweeps was only 10. Wilt disease was present in nearly all the infested fields and was a very important factor in reducing damage. The larval parasite Apanteles flaviconchae Riley was slow in developing; however, by

August 6 most of the small alfalfa butterfly larvae in most of the fields were parasitized. The percentage of larvae parasitized in many fields exceeded 80 percent. On August 14, in some fields, the number of small larvae parasitized reached nearly 100 percent. In the northwestern portion of the San Joaquin Valley there was no large second generation of alfalfa weevil. Highest larval population encountered in any field was found on July 3. In this field 250 larvae were collected per 100 net sweeps. In most fields the number collected was less than 100.

LESPEDEZA

OBSOLETE BANDED STRAWBERRY LEAF ROLLER (Cacoccia obsoletana Walk.)

Virginia. W. J. Schoone (July 26): Reported causing serious injury at Heathsville in eastern Virginia. (Det. by J. F. G. Clarke.)

COWPEAS

WEEVILS (Chalcodermus spp.)

Georgia. T. L. Bissell (August 4): C. acneus Boh. reported as light at Sandersville. (August 5): C. collaris Horn adults were present on Chamaccrista fasciculata planted as border row between wood and fields at Midville, southeastern Georgia. No pods present.

A LEAF-BEETLE (Andrector ruficornis Oliv.)

Arizona. C. D. Lebert (August 25): Severe defoliation of a block of cowpeas in the northeastern Phoenix area. (Det. by F. H. Parker.)

SESBAN

A WEEVIL (Eudiacogus rosenschoeldi Fahr.)

Arkansas. D. Isely (August 25): Caused considerable damage to Sesbania which was grown as soil improving crop in Lincoln County.

SORGHUM

SORGHUM WEBWORM (Celana sorghicella Riley)

Texas. W. C. Maxwell (August 14): Caused considerable damage to the grain sorghum crop in Huaces County, with damage being particularly severe on the late part of the early feed crop. Pyroderces rileyi Wlsm. have been found in some of the heads of native maize previously damaged by this insect.

R. K. Fletcher (August 26): Present on hegari in Lavaca and De Witt Counties on August 8.

RICE STINK BUG (Solubea pugnax F.)

Oklahoma. R. G. Dahms (August 22): Very abundant on sorghum heads in Comanche County. In some fields 100 percent of the heads are infested and there are often 40 or more bugs on one head. (Det. H. G. Barber.)

SUGARCANE

SUGARCANE BORER (Diatraea saccharalis F.)

Louisiana. A. L. Dugas (August 25): Infestation is generally heavy as compared with the last few years. Severe injury is becoming apparent in a number of localized areas in the southern part of the cane area. Natural parasitism by Trichogramma is very high.

F R U I T I N S E C T S

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica soror Lec.)

California. A. E. Michelbacher (August 25): Extremely abundant at Brentwood and caused serious damage to ripening deciduous fruits. As many as 3,000 beetles were collected on a single tree, and the average number per tree in some orchards exceeded 1,500.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

South Carolina. J. A. Berly (August 22): Quite often observed at Clemson and is injurious to Photinia.

Mississippi. C. Lyle, et al. (August 23): Heavy infestations have been observed on untreated trees in the Meridian territory.

WHITE PEACH SCALE (Aulacaspis pentagona Targ.)

Virginia. L. D. Anderson (August 20): Reported as present on lilac, privet, mulberry, peach, and other host plants at Norfolk.

North Carolina. C. S. Brimley (August 22): Becoming more numerous on privet hedges at Raleigh and damage is often severe.

APPLE

CODLING MOTH (Carpocapsa pomonella L.)

Maine. Maine Agr. Exp. Sta. (July): Infestation light, but evidence of increasing infestation late in July in orchards at Monmouth, Kennebec County.

New York. N. Y. State Coll. Agr. News Letter (August 4): In eastern New York, significant numbers of second-brood moths in bait traps and new larval entrances are being found daily. In western New York at Geneva second-brood larvae well started and gaining momentum each warm day. (August 9): Moths continue to emerge at a steady rate and the bait catch today was the largest to date for the second brood. These conditions are typical of all zones.

Virginia. A. M. Woodside (August 23): Infestation has increased rapidly in most orchards in Augusta County. Hatching of second-brood eggs is over. Heavier infestation than during the same period for several years.

Ohio. T. H. Parks (August 26): Larvae have been troublesome since early in August in a few "problem" orchards, where the regular sprays have not controlled. There has been a heavy second brood of moths.

Indiana. L. F. Steiner (August 6): Bait trap catches during the last week at Vincennes have gradually increased with the largest catches of the season now occurring in one orchard. There has been a noticeable increase in new injuries in most orchards during the last 2 days and today's population count showed an increase of five times over last week's moth population. (August 21): Moth catches in traps on favorable nights are still heavy at Vincennes. Several treated orchards in southwestern Indiana have from 50 to 90 percent of the crop injured.

Illinois. S. C. Chandler (August 23): Third brood in southern and western Illinois is on the decline, with fewer new entrances. Many orchards over the territory have a very severe infestation, up to 50 percent of the fruit being infested.

Kentucky. L. F. Steiner (August 21): Several treated orchards in northern Kentucky have been injured from 50 to 90 percent.

Missouri. L. Haseman (August 29): Throughout Missouri growers who have used a full schedule of sprays have been able to control first- and second-brood larvae quite successfully, but the dry weather in August, particularly in the southern part of the State, has been very favorable to the pest.

Washington. C. C. Alexander (August 18): Summer-brood moth emergence increased late in July on apple and pear at Yakima, and apparently reached a peak on August 16-17. Egg deposition increased during August.

EYE-SPOTTED BUDMOTH (Spilonota ocellana D. & S.)

New York. F. Z. Hartzell (August 26): Continues to be abundant in the Apple Belt on the south shore of Lake Ontario. Serious injury on untreated trees.

Washington. F. W. Carlson (August 18): Adults taken in baits at Yakima. (Det. by E. J. Newcomer.)

OBLIQUE-BANDED LEAF ROLLER (Cacoecia rosaceana Harr.)

Washington. F. W. Carlson (August 18): Adults taken in codling moth baits at Yakima. (Det. by E. J. Newcomer.)

HAG MOTH (Phobetron pithecium A. & S.)

Maine. H. B. Peirson (August): A few full-grown larvae were found feeding on apple foliage in Gardiner. Starting spinning cocoons on August 26. First record of this insect in Maine.

APPLE MAGGOT (Rhagoletis pomonella Walsh)

New York. N. Y. State Coll. Agr. News Letter (August 4): In Clinton County injury is severe in a few totally neglected plots of trees. Oviposition started not later than July 10. Flies are noted occasionally.

APPLE APHID (Aphis pomi Deg.)

New York. N. Y. State Coll. Agr. News Letter (July 28): In western New York, in Niagara County, aphids appear to be on the wane although they are still serious on uncared for apples. In Monroe County on the increase again near the lake.

WOOLLY APPLE APHID (Eriosoma lanigerum Hausm.)

New York. N. Y. State Coll. Agr. News Letter (August 11): In western New York, several growers have complained of this aphid defoliating trees. A close check-up this summer indicated that leaf yellowing and drop occurs at this time, correlating with a build-up of woolly aphids on inner parts of the tree. However, trees showing very few woolly aphids also have the leaf drop, and indications are that the trees showing yellowing and drop are those having infestations of the green aphid (Aphis pomi Deg.) earlier and that the woolly aphid is being blamed for the damage caused by a combination of green aphids, treatment, and possibly summer oil build-up.

Mississippi. C. Lyle (August 23): Reported as injuring apple trees in Montgomery County on July 26.

COMSTOCK'S MEALYBUG (Pseudococcus comstocki Kuw.)

Virginia. A. M. Woodside (August 24): Few adults in an orchard near Staunton, Augusta County, where there was a light infestation last year.

Ohio. G. J. Haussler (August 21): Adult females of the second generation are very abundant in two apple orchards at Proctorville in Lawrence County. Some are still feeding, large numbers are migrating in search of oviposition quarters, others are ovipositing. Eggs of the third generation are already abundant and the hatch has just started. The young nymphs are still in the egg masses and have not yet begun to feed. A considerable amount of injury in the form of sooty mold and mealybug egg masses is present on the fruit. Parasitization is extremely low, only two cocoons of mealybug parasites being found in the two orchards. A very severe infestation of this mealybug is present

on honeysuckle growing along a fence adjacent to one of the orchards.

Virginia. G. J. Haessler (August): In Albemarle County adult females of the second generation have been very abundant throughout most of the month in some orchards. In several other orchards of the county the infestation appears to have decreased considerably. Deposition of the third brood of eggs has been under way since July 31. These began to hatch about August 17. First-stage nymphs of the third generation were first observed outside the egg masses and feeding on August 26. In some orchards a considerable amount of damage is present on the fruit and in a few instances the more heavily infested trees are losing their foliage. Parasitization by Clausenia purpurea Ishii has shown an appreciable increase on the second generation of the host in this county. The introduced Japanese parasite, Allotropa sp., is building up very rapidly in several orchards of Albemarle and Clark Counties.

South Carolina. W. M. Upholt (August 27): At Clemson a mirid, identified by H. G. Barber as Eurychiloptera luridula Reut., is very plentiful among egg masses of P. comstocki on apple, and appears to be effecting appreciable control.

#### EUROPEAN RED MITE (*Paratetranychus pilosus* C. & F.)

Massachusetts. A. I. Bourne (August 28): The season has been marked by a scarcity of the European red mite.

Connecticut. P. Garman (August 20): Scarce in most apple orchards in New Haven County; doing considerable damage in a few.

Ohio. T. H. Parks (August 26): Quite serious in some northeastern orchards, and especially in untreated sections.

Washington. E. J. Newcomer (August 18): Becoming common on apple in Yakima, although it was scarce earlier in the season.

#### PACIFIC MITE (*Tetranychus pacificus* McG.)

Washington. E. J. Newcomer (August 18): Becoming serious enough in some apple orchards at Yakima and Wenatchee to warrant control measures.

#### PEACH

#### ORIENTAL FRUIT MOTH (*Grapholitha molesta* Busck)

Connecticut. P. Garman (August 20): Less abundant on peaches generally than last year.

New York. N. Y. State Coll. Agr. News Letter (July 28): In Ulster County, in eastern New York, as high as 40 percent injury has occurred on early peaches and much tip injury is present. Third-brood larvae are beginning to appear. (August 1): In western New York, the second-brood

larvae have reached maturity and left the twigs. This brood confined its activity largely to twig feeding. Parasitism of the second brood has been high.

Virginia. A. M. Woodside (August 23): Infestation on peach fruit reported as light in Augusta County, and moderate in Rockingham County.

W. J. Schoene (August 15): Caused serious injury to commercial peach orchards in Buckingham, Nottoway, and Brunswick Counties, wormy fruit ranging from 15 to 50 percent. Most serious injury ever experienced in that section.

Georgia. O. I. Snapp (August 7): Infestation at Fort Valley in central Georgia is lighter than last year. Of 4,306 ripe Elberta peaches cut and carefully examined, only 17, or 0.39 percent, were found to be infested. These peaches were harvested from an untreated commercial orchard near Fort Valley. Absence of a host for the maturity of the hibernating broods of larvae is responsible for the light infestations.

T. L. Bissell (August 12): Heavily infested peach trees at Griffin, a great percentage of the terminals being killed.

Mississippi. C. Lyle, et al. (August 23): Reported as injuring peach twigs in Bolivar and Coahoma Counties, and damage reported from the Jackson, Meridian, and northwestern territories, as well as from Monroe County.

Louisiana. C. O. Eddy (August 25): Extremely numerous in northeastern, central, and southern Louisiana.

Ohio. T. H. Parks (August 26): Newly harvested Elberta peaches show less infestation than for several years. Even the earliest maturing fruits bore very few blemishes.

Indiana. L. F. Steiner (July 23): Very light infestation at Vincennes.

Illinois. C. C. Compton (August 23): Very few present in southern Illinois. Reported that there were only 3 wormy peaches out of a total of 1,500 examined at Belleville, and less than .25 percent to 2 percent injury in three orchards examined in Calhoun County during the week ended August 23.

S. C. Chandler (August 23): Harvest counts in orchards over the peach area of southern Illinois show the lowest infestation in several years.

Missouri. L. Haseman (August 29): Oriental fruit moths have been seen in central Missouri and an increasing number of them have been caught in bait jars. On August 27 some peaches were showing full-grown larvae.

PEACH BORER (Conopia exitiosa Say)

New York. N. Y. State Coll. Agr. News Letter (August 4): At Geneva adults have been emerging for several weeks. Egg laying has begun and entries of newly hatched larvae can be found.

BUCK MOTH (Hemileuca maia Drury)

Texas. W. C. Maxwell (August 26): Larvae defoliated a peach tree near Robstown, in Nueces County, then moved to an elm tree nearby.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Virginia. W. J. Schoene (August 15): Caused some injury to peach orchards in Buckingham, Nottoway, and Brunswick Counties.

A. M. Woodside (August 23): Few first-brood females deposited eggs in Albemarle County. Most of the larvae from eggs deposited in insectary have left fruit.

Georgia. C. I. Snapp (August 13): Seventy-one percent of the new beetles started to deposit second-generation eggs at Fort Valley by the end of the peach harvest, which is more than that of any of the last 5 years. Second-brood larval infestation was heavier than that of an average year, and caused considerable damage to the peach crop. Adult population in central Georgia orchards will be heavier than that of an average year owing to emergence of second-generation adults.

Mississippi. C. Lyle, et al. (August 23): Heavy damage has occurred on untreated and late varieties of peaches and plums.

Kentucky. M. L. Diddake (August 26): Second generation is unusually abundant. As high as 50-percent infestation of Elberta peaches reported in western Kentucky.

Ohio. T. H. Parks (August 26): Larvae have been more abundant in early maturing peaches than for several seasons. Beetles were reported present in a few commercial plum orchards.

Illinois. S. C. Chandler (August 23): Larval infestation over the peach area of southern Illinois is lighter than it has been for several years.

Missouri. L. Haseman (August 20): During August peaches in central Missouri have shown a light infestation. Larvae are from one-half grown to full grown.

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

Mississippi. C. Lyle, et al. (August 23): Reported as injuring a number of peach trees in Hinds County.

Louisiana. C. O. Eddy (August 25): Reported as being unusually abundant in northern Louisiana on peaches.

Missouri. L. Haseman (August 29): Peach and apple trees, dying from the effect of the November freeze of 1940, are showing extremely heavy infestation of shot-hole borer.

A BEETLE (Blapstinus rufipes Casey)

California. C. K. Fisher (August): Heavily infested pile of peach pits in a fallow field in Fresno County, great numbers of the insects being present 2 or 3 inches beneath the dry surface of the pile. Fallen peaches and figs nearby also attacked.

PEAR

PEAR PSYLLA (Psylla pyricola Foerst.)

New York. N. Y. State Coll. Agr. News Letter (August 11): In Orleans County tremendous numbers of eggs present and flies still active.

Washington. J. F. Cooper (August 8): Adults taken from property near Ellensburg, Kittitas County. (Det. by P. W. Oman.)

Oregon. J. F. Cooper (August 27): Specimen collected in Umatilla County. (Det. by P. W. Oman.)

PEAR SLUG (Caliroa cerasi L.)

Utah. G. F. Knowlton (August 23): Injuring hawthorne foliage at Coalville in Summit County.

Wyoming. B. T. Snipes (August 6): Damage to nursery stock pear and plum trees at Casper and Cheyenne by the pear slug has been slight.

CURRENT

CURRENT FRUITFLY (Epochra canadensis Loew)

Utah. G. F. Knowlton (August 14): Infested 18 percent of the black currants on bushes examined at Hooper.

GRAPE

GRAPE LEAFHOPPER (Erythroneura comes Say)

New York. F. Z. Hartzell (August 26): Much less numerous in Chautauqua and Erie Grape Belt than last year.

Tennessee. G. M. Bentley (August 25): Second brood was doing considerable damage in a large vineyard in Sevier County on August 11.

Nebraska. O. S. Barr (August 13): Infestations were reported on wild grape in Sheridan County on July 16 and on woodbine in Wheeler County on August 6.

Texas. W. C. Maxwell (August 14): Very numerous with apparent damage on some of the grapes in Robstown, in Nueces County. More numerous on domestic grapes than on the native grape, the so-called Mustang grape, even when the two kinds were growing on the same arbor.

R. K. Fletcher (July 25): Present on grapes in Nolan County.

Wyoming. B. T. Snipes (August 1): Heavy populations of the woodbine leaf-hopper on woodbine are causing serious damage and death in some cases to the vines in the vicinity of Powell in Park County.

#### GRAPE BERRY MOTH (Polychrosis viteana Clem.)

New York. F. Z. Hartzell (August 26): More abundant than in 1940 and very serious in most of the Grape Belt in the Chautauqua and Erie areas.

Ohio. T. H. Parks (August 26): Injury is very severe in a large Franklin County vineyard, and second-brood eggs were hatching in large numbers near Sandusky in mid-August.

#### GRAPE LEAF FOLDER (Desmia funeralis Hbn.)

Missouri. L. Haseman (August 20): The grape leaf roller is occurring in some vineyards and on wild grape and Virginia creeper foliage in central Missouri. The larvae vary from newly hatched to half-grown or larger.

Texas. W. C. Maxwell (August 14): Grape arbors in Robstown, Nueces County, have been considerably damaged, the damage to the native grape being more severe than that on the domestic grapes.

#### PECAN

##### APHIDS (Aphididae)

Texas. C. B. Nickels and W. C. Pierce (August 15): Monellia costalis Fitch and Melanocallis caryaefoliae Davis have been abundant on most of the pecan trees in central Texas for the past month.

#### TWIG GIRDLER (Oncideres cingulatus Say)

Florida. A. N. Tissot (August 27): First report of season received from Felda on August 4. Insect was cutting branches of pecan.

#### PECAN BUDMOTH (Gretchenia bolliana Sling.)

Texas. C. B. Nickels and W. C. Pierce (August 14): Estimated that 50 percent of the buds had been destroyed on small pecan trees in two large nurseries at Arlington. Injury occurred between April and July.

CITRUS

CALIFORNIA RED SCALE (Aonidiella aurantii Mask.)

California. R. S. Woglum (August): Considerable natural mortality of red scale this spring in most areas, which more than counterbalanced the tendency toward scale increase from an open winter and lack of treatment. Crawlers appeared in numbers in May with hatching intermittently since, which is now leading to build-up in many orchards. Such build-up is much more noticeable in interior areas than toward the coast and especially in orchards on higher elevations where natural mortality has been least and scale increase most rapid. Scale is severe in only occasional orchards, but there are many, especially in the interior, with widespread infestations.

BLACK SCALE (Saissetia oleae Born.)

California. R. S. Woglum (August): Generally lighter than last year, and most prevalent in the area from Ontario to Redlands and to a lesser degree in the San Fernando Valley. In the coastal area heavy infestations still remain few and far between, especially in the double-brooded area, but there are some groves where the scale has been developing very rapidly.

FLORIDA RED SCALE (Chrysomphalus aonidum L.)

Florida. M. D. Leonard (August 1): Considerable sized tract of "Pincapple" oranges at Mount Dora was heavily infested.

PURPLE SCALE (Lepidosaphes beckii Newm.)

California. R. S. Woglum (August): Continues to be the major problem in many orange groves in Orange County and to some extent in the Whittier-Rivera-Downey area of Los Angeles County.

COTTONY-CUSHION SCALE (Icerya purchasi Mask.)

Texas. W. C. Maxwell (August 14): Present on a tangerine and a Ponderosa lemon in a dooryard planting in Robstown, with infestation being rather heavy on parts of each tree. Numerous larvae of a coccinellid are feeding on the scale. An adult Rodolia cardinalis Muls. was found on the ground beneath one of the infested trees, and it is likely that the coccinellid larvae are of this species.

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

Florida. M. D. Leonard (August 3): Fair infestation occurred recently in a large citrus grove on Merrit Island.

Mississippi. C. Lyle, et al. (August 23): Very abundant on privet hedge plants in the southwestern part of the State.

CITRUS RUST MITE (Phyllocoptes oleivorus Ashm.)

Florida. M. D. Leonard (July 27): Reported as quite active on citrus in some sections of Brevard County last week. (August 3): Heavy infestations on citrus in Lake County.

SIX-SPOTTED MITE (Tetranychus sexmaculatus Riley)

Florida. M. D. Leonard (August 3): Heavy rains have caused a considerable decrease on citrus at Davenport.

MANGO

RHINOCEROS BEETLE (Dynastes tityus L.)

Florida. A. N. Tissot (August 27): Adults reported as feeding on mango fruits at Micco and causing fruit to fall from the tree. Beetles feed voraciously on ripe mangoes in the laboratory.

T R U C K - C R O P I N S E C T S

BLISTER BEETLES (Meloidae)

Massachusetts. A. I. Bourne (August 28): Black blister beetles (Epicauta pennsylvanica Dog.) were beginning to be conspicuous the first week of August on asters, gladiolus, and other late summer and early fall flowering plants.

Rhode Island. B. Eddy (August 28): Margined blister beetle, (E. marginata F.) is rather heavy in beets and Compositae, and E. pennsylvanica is heavy on goldenrod throughout the State.

Virginia. L. D. Anderson (August 20): Several species of blister beetles are numerous and causing some damage to tomato plants and many ornamentals in the Norfolk area.

Georgia. T. L. Bissell (August 13): E. marginata present on tomatoes and other crops.

Florida. A. N. Tissot (August 27): Striped blister beetles (E. vittata F.) were severely damaging eggplant at Seffner on August 8.

Mississippi. C. Lyle, et al. (August 23): Blister beetles have damaged beans in Copiah and Lincoln Counties, and garden plants in Clay and Tippah Counties. Specimens of E. marginata were received from Coahoma County on August 8 where they were found on cotton. Specimens of E. lemniscata F. were taken from tomato plants in Oktibbeha County on August 18. This species continues injurious in the northeastern counties, but are not nearly so numerous as they were in June and July.

Tennessee. G. M. Bentley (August 25): E. pennsylvanica and E. vittata are occurring on potatoes, tomatoes, cowpeas, and soybeans.

L. B. Scott (August 20): Macrobasis unicolor Kby. and E. vittata adults are unusually abundant on weeds and garden crops in the north-central part of the State.

Ohio. E. W. Mendenhall (August 14): E. pennsylvanica are abundant on dahlia plants.

Nebraska. O. S. Bare (August 13): Blister beetles found on tomato vines were submitted from Saline County on August 1. Also reported from Lancaster County during the period from July 16 to August 13.

Utah. G. F. Knowlton (August 5): E. maculata Say is abundant on alfalfa field margin at Grantsville.

#### CUCUMBER BEETLES (Diabrotica spp.)

Mississippi. C. Lyle, et al. (August 25): Some damage to late beans and cucumbers by D. vittata F. and to late melons by D. duodecimpunctata F. was observed in the Meridian area.

Louisiana. E. H. Floyd (August 20): D. duodecimpunctata, D. vittata, and D. balteata Lec. have severely damaged summer squash around Baton Rouge.

Ohio. N. F. Howard (August 23): Grower of tomatoes in a greenhouse reported that D. vittata was injuring recently set-out plants.

Illinois. C. C. Compton (August 23): D. duodecimpunctata is more numerous than it has been for some time over the northern half of the State. Specimens unusually abundant on flowering crops, such as aster, where fields of an acre or more will average 5 to 7 adults per flower.

Minnesota. H. E. Milliron (August 13): D. duodecimpunctata is moderately abundant on cucumber and squash at Saint Paul and Minneapolis.

A. G. Ruggles, et al. (August 13): D. vittata very abundant. Bacterial wilt of cucurbits has been fairly common on cucumbers and muskmelons where the beetle was present.

Utah. J. F. Parrish (August 13): Reported that D. vittata has destroyed 50 acres of melons and cucumbers in Grand County during 1940.

#### GARDEN FLEA HOPPER (Halticus citri Ashm.)

Virginia. A. M. Woodside (August 15): Common on weeds and clover in orchards, and causing serious damage in some of the orchards. Infestations observed are pretty well scattered over Augusta and Rockingham Counties.

L. D. Anderson (August 20): All stages have been very abundant in several flower gardens, and have been especially abundant and injurious on verbena, hollyhocks, and mint in the Norfolk area.

Mississippi. C. Lyle, et al. (August 23): Specimens were taken from tomato plants in Holmes County on July 25.

Missouri. L. Haseman (August 14): An epidemic noted at Columbia on corn, beans, and cucumbers the last two and one-half weeks.

Texas. R. K. Fletcher (August 26): General over lower Rio Grande Valley on July 27, attacking tomato and eggplant seed beds.

#### SIX-SPOTTED LEAFHOPPER (Macrostelus divisus Uhl.)

Minnesota. H. E. Milliron (August 13): Generally very abundant, especially on carrots, parsnips, celery, beets, and other garden crops, and on various weeds on muck and peat soils around Minneapolis and Saint Paul.

#### A COREID (Euthochtha gallicator F.)

Ohio. Mrs. R. T. Lowerre (August 18): Specimens taken from roses, beets, corn, and beans, were submitted from Macedonia on August 14.

#### NORTHERN MOLE CRICKET (Gryllotalpa hexadactyla Perty)

Nebraska. O. S. Baro (August 13): Specimens received from Garden County on August 9.

#### GARDEN CENTIPEDE (Scutigrella immaculata Newp.)

Idaho. J. R. Douglass (August 11): Reported as destroying stands of cucumbers in Twin Falls.

Utah. G. F. Knowlton (August 12): Damaged table beets and turnips, and caused poor germination and stand of many plants seeded in a garden at Plain City, Weber County. (August 18): Reported as causing a serious condition in Utah County gardens.

#### POTATO

#### COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

New York. N. Y. State Coll. Agr. News Letter (July 28): On Long Island grubs were heavily infesting eggplants. Adults were seen mating and it seems as if this may be a second-generation infestation.

Minnesota. A. G. Ruggles, et al. (August): Very abundant at Barnum, in Carlton County, at Belgrade, in Stearns County, and at Long Prairie, in Todd County. Reported as moderately abundant generally. The population is mostly adults which frequently migrate to late potatoes or eggplant.

Utah. G. F. Knowlton (August 2): Reported as causing injury in the small infested area in northern Utah.

Washington. B. J. Landis (August 1-15): Adults, larvae, and eggs observed on potato at Prosser, Granger, Boone, Zillah, Wapato, and Harrah, with some damage noted at Prosser. Larvae were being fed upon by the pentatomid Perillus bioculatus F.

#### FLEA BEETLES (Epitrix spp.)

Mississippi. C. Lyle, et al. (August 23): Specimens of E. parvula F. and E. cucumeris Harr. were taken from tomato plants in Holmes County on July 25 and 28.

Minnesota. A. G. Ruggles, et al. (July 30): E. cucumeris is very abundant at Barnum.

Utah. G. F. Knowlton, et al. (August 5): Western potato flea beetle (E. subcrinita Lec.) is causing damage to potato foliage at Richfield and Glenwood, in Sevier County. (August 8): Generally more injury occurring in Sevier County, and potato foliage was being damaged on a ranch west of Snowville, in Box Elder County.

Washington. B. J. Landis (August 15): E. subcrinita and E. cucumeris are abundant and causing considerable damage to potatoes at Wapato, Toppenish, Harrah, and as far east as Prosser. Adults of both species were observed feeding on foliage of potato, tomato, eggplant, and peppers.

#### HORNWORMS (Protoparce spp.)

Maine. A. E. Brower (August): Larvae of the tomato worm are infesting tomatoes around Augusta.

Mississippi. C. Lyle, et al. (August 23): Specimens of the tomato worm (P. sexta Johan.) have been taken from tomato plants in Holmes, Lauderdale, Monroe, Oktibbeha, Pearl River, and Stone Counties, as many as 14 specimens being collected in a single locality. Parasitized specimens (probably this species) were also reported from Monroe County on August 5.

Missouri. A. C. Burrill (July 22): First specimens of P. quinqueaculata Haw. seen on four-o'clocks and petunias at Jefferson City.

Utah. G. F. Knowlton (July 28): Tomato hornworm is defoliating a few tomato and potato plants at Caineville.

Washington. B. J. Landis (August 1): Larvae of P. quinqueaculata were found occasionally on tomato and potato at Union Gap and Harrah.

E. J. Newcomer (July): P. sexta was quite common on tomatoes at Yakima.

POTATO LEAFHOPPER (Empoasca fabae Harr.)

New York. N. Y. State Coll. Agr. News Letter (July 28): On Long Island leafhoppers on potatoes have multiplied to such an extent that considerable damage has been caused in some fields. (August 4): In Saratoga County a small planting of potatoes had the heaviest infestation ever observed by the reporter. In western New York, leafhoppers are rapidly increasing in numbers in the Tully section of Cortland County. (August 11): Numerous in Wayne and Orleans Counties, and serious tipburn observed in the latter county.

Minnesota. A. G. Ruggles, et al. (August 13): Very abundant on potatoes, beans, and similar crops in Saint Paul and Minneapolis, causing severe tipburn in untreated areas. Very abundant at Lake Park, in Becker County, and at Hinckley, in Pine County.

A LEAFHOPPER (Empoasca filamenta DeL.)

Utah. G. F. Knowlton (August 5): Damaging potato foliage at Richfield and Elsinore.

POTATO PSYLLID (Paratriozza cockerelli Sulc)

Wyoming. B. T. Snipes (July 30): Heavy damage by the potato psyllid (Paratriozza cockerelli Sulc) has occurred in untreated potato fields in Park, Goshen, and Sheridan Counties.

APHIDS (Aphididae)

Connecticut. N. Turner (August 22): Macrosiphum solanifolii Ashm. appear to be more numerous on tomatoes than usual. Reported as causing serious damage in some instances.

New York. N. Y. State Coll. Agr. News Letter (August 19): On Long Island there was very little aphid migration from such crops as potatoes during the week of July 7, and when they began moving to smaller vegetables during the week of July 14, diseases had already begun to thin their ranks. By July 20 it was difficult to find live specimens on potatoes. On August 12 the populations on some tomato fields on Staten Island were still rather high. In Wayne County, western New York, aphids were numerous in some spots on August 11.

Utah. G. F. Knowlton (August 2): Myzus persicae Sulz. is moderately abundant on potatoes examined at Logan, and an occasional plant was heavily infested. (August 24): M. persicae was moderately abundant on mosaic-infected potatoes at Howell.

BEANS

MEXICAN BEAN BEETLE (Epilachna varivestis Muls.)

Maine. Maine Agr. Exp. Sta. (July): Generally numerous on beans, with moderate injury in Oxford County, moderate to severe injury in Cumberland County, and severe in York County.

Rhode Island. B. Eddy (August 28): Heavy in string and pole beans throughout Washington County.

New York. N. Y. State Coll. Agr. News Letter (August 4): In eastern New York, a few straggling larvae, many pupae, and a few first-generation adults were observed in Saratoga County on July 31. Injury by the first-brood larvae has been more severe generally this season on field beans than for average years. (August 11): Eggs are hatching in western Suffolk County. Adults are quite numerous and have done some damage to late-planted beans. (August 4): In western New York, adults from the first brood of larvae have been emerging since July 20 in the early planted fields (May 24) of Steuben County. Pupation of the first brood began in all except the fields planted around June 26. Beetles are much more numerous in Cayuga County than in previous years, and many larvae and a few of the new brood of adults were found within 5 miles of Lake Ontario for the first time.

(August 11): Second brood adults present in small numbers in Wayne County.

Virginia. L. D. Anderson (August 20): Damage to beans in the Norfolk area has been greatly reduced by the extreme hot, dry weather which killed many of the eggs, larvae, pupae, and adults during July.

Georgia. C. I. Snapp (August 8): Infestation at Fort Valley, in central Georgia, is now heavy and seriously injuring lima beans and snap beans in a number of gardens.

T. Thompson (August 16): Caused heavy damage to late lima beans at Thomasville.

Mississippi. C. Lyle, et al. (August 23): Specimens received from Oktibbeha County. Reported as damaging beans and lima beans in Chickasaw, Hinds, Smith, and Yalobusha Counties, in the Meridian area, and in the northeastern counties.

Tennessee. G. M. Bentley (July 28): Reported as doing considerable damage in several counties.

Ohio. N. F. Howard (August 23): Larvae, but not eggs, were killed by hot weather during first half of August at Columbus, according to J. Patton.

E. W. Mendenhall (August 14): Quite bad generally in untreated areas and some bean patches are totally destroyed.

Utah. G. F. Knowlton, et al. (August 11): Injury is severe at Castle Dale, Green River, Emery, and Ferron, in Emery County, and at Price and Wellington, in Carbon County. Plants in some home gardens have been almost completely destroyed. (August 13): Caused serious injury and is still damaging beans at Moab, Castleton, and Spanish Fork Valley areas of Grand County.

RED SPIDERS (*Tetranychus* spp.)

Virginia. L. D. Anderson (August 20): Red spiders have caused considerable injury in several lima bean fields on the Eastern Shore of Virginia.

Ohio. N. F. Howard (August 4): Specimens of *T. telarius* L. and *T. atlanticus* McG. were found on garden bean at Columbus, on July 31, and submitted with statement that mites moved over to beans from red clover.

California. R. E. Campbell (July 22): *T. telarius* reported as heavily infesting lima beans at San Juan Capistrano. (Det. by E. A. McGregor.)

PEAS

PEA APHID (*Macrosiphum pisi* Klth.)

Idaho. J. R. Douglass (July 30): Reported as damaging peas grown for seed in the upper Snake River Valley.

CABBAGE

IMPORTED CABBAGE WORM (*Pieris rapae* L.)

Connecticut. N. Turner (August 22): Much less abundant than usual on late cabbage in southern Connecticut.

Rhode Island. B. Eddy (August 28): Relatively light in Washington County.

Missouri. L. Haseman (August 29): Since the middle part of August, there has been a rather severe infestation of the imported cabbage worm in central Missouri. August 26 there were a few butterflies on the wing and the larvae on cabbage were almost ready to pupate.

Minnesota. H. E. Milliron (August 13): Damaging cabbage, cauliflower, and rape in Minneapolis and Saint Paul.

Utah. G. F. Knowlton (July 25): Butterflies abundant at Clover and Millville. (July 28): Injuring cabbage at Riverdale. Butterflies are abundant at Clinton and Hooper. (August 7): Large numbers of butterflies are flying over alfalfa fields at Howell. (August 13): Butterflies are abundant at Mantua and Syracuse.

Washington. B. J. Landis (August 15): Adults, eggs, and young larvae are very abundant on cabbage in small gardens at Union Gap.

CABBAGE LOOPER (Autographa brassicae Riley)

Connecticut. N. Turner (August 22): Much less abundant on late cabbage than usual in southern Connecticut.

Missouri. L. Haseman (August 29): Since the middle part of August, there has been a rather severe infestation of the cabbage looper in central Missouri. On August 26 the loopers were small to half grown.

Minnesota. H. E. Milliron (August 13): Damaging cabbage, cauliflower, and rape in Minneapolis and Saint Paul.

DIAMONDBACK MOTH (Plutella maculipennis Curt.)

Minnesota. H. E. Milliron (August 13): Moderately abundant at Saint Paul and Minneapolis on cabbage, cauliflower, and horseradish.

Washington. B. J. Landis (August 15): Larvae and pupae were observed on cabbage near Granger.

ZEBRA CATERPILLAR (Ceramica picta Harr.)

Minnesota. H. E. Milliron (August 13): Occurring on cauliflower at Saint Paul, the damage to leaves by clusters of young larvae being especially apparent.

CABBAGE MAGGOT (Kylemya brassicae Bouche)

Minnesota. H. E. Milliron (August 13): Moderately abundant at Saint Paul and Minneapolis. On upland soil, very severe infestations have been noted on cabbage, rutabagas, and turnips, rendering many of the crops unmarketable.

HARLEQUIN BUG (Murgantia histrionica Hahn)

South Carolina. O. L. Cartwright (August 14): Both adults and nymphs, as many as 8 to 10, present on bunches of grapes and feeding on the fruit, at Clemson. Bugs congregated on just a few vines.

Georgia. T. L. Dissell (August 24): On collards at Cartersville.

Florida. A. W. Tissot (August 27): Reported as injuring cabbage, collards, and turnips at Chipley on August 15.

Mississippi. C. Lyle, et al. (August 23): Damage observed on collards in the Meridian area.

Missouri. H. E. Brown (August 28): First noticed at Columbia, August 15, feeding on kale and broccoli. So far little damage has been done but eggs and nymphs are abundant and control measures would be justified.

STRIPED FLEA BEETLE (Phyllotreta vittata F.)

Virginia. L. D. Anderson (August 20): Caused severe injury in many recently planted kale fields in the Norfolk area.

SQUASH

SQUASH BUG (Anasa tristis Deg.)

Maine. Maine Agr. Exp. Sta. (July): Numerous on squash, and causing moderate injury at Fryeburg in Oxford County.

New York. N. Y. State Coll. Agr. News Letter (July 28): In eastern New York, bugs are active and ovipositing. In western New York, many colonies were reported as hatching in Orleans County, but as rather scarce in Monroe County. Adults are quite generally parasitized, but in spite of this quite a few eggs were laid. Egg masses seem less abundant and nymphs are present only in rather limited numbers.

(August 4): Present in Monroe County, but older ones are so heavily parasitized that very little injury is expected.

Maryland. L. P. Ditman (August): Considerable injury observed during the last two years on squash, gourd, and melons in Prince Georges County.

Mississippi. C. Lyle, et al. (August 23): Caused damage to late plantings of summer squash in the Meridian area.

Louisiana. E. H. Floyd (August 20): Beginning to show up in squashes around Baton Rouge.

Minnesota. H. E. Milliron (August 13): Moderately abundant generally; very abundant in restricted fields in Minneapolis and Saint Paul (and south). Early damage to squash usually consists of wilting of entire plant. Approximately 30 percent of plants lost where population is very abundant. General infestation appears to be the heaviest on record in this area.

Nebraska. O. S. Pare (August 13): Reported from Holt County on August 11.

Utah. G. F. Knowlton, et al. (August): Reported as damaging squash in all localities throughout much of northern Utah, at Grantsville, Garland, and Logan; moderate to severe damage reported in parts of Grand County.

Washington. B. J. Landis (August 15): Eggs, nymphs, and adults are moderately abundant at Granger, Boone, Union Gap, and Yakima, and are causing much concern to growers of squash and field pumpkin.

MELONS

MELON APHID (Aphis gossypii Glov.)

Louisiana. E. H. Floyd (August 21): Abundant on summer squash.

Minnesota. H. E. Milliron (August 13): Generally moderate to very abundant at Minneapolis and Saint Paul. Injurious infestations noted on muskmelons and cucumbers since the latter part of July. Lighter infestations have been encountered on squash.

Nebraska. O. S. Bare (August 13): Reported on cucumber vines in Holt County on July 22.

Utah. G. F. Knowlton (August): Reported as severely damaging some cantaloupe at Green River on August 11. Injury is usually confined to a few plants in each infestation.

ASPARAGUS BEETLE (Crioceris asparagi L.)

New York. N. Y. State Coll. Agr. News Letter (July 28): In Monroe County feeding has been heavy, and fields show considerable injury.

Minnesota. H. E. Milliron (August 13): Moderately abundant generally around north and south Minneapolis. Very abundant in some localities. Almost complete destruction of large acreages of nature asparagus has been noted where no control measures were used. Tetrastichus asparagi Crawf. was moderately abundant.

Utah. G. F. Knowlton (August 20): Damaging asparagus at Hooper, Syracuse, and Logan.

CARROT

CARROT RUST FLY (Psila rosae F.)

New York. N. Y. State Coll. Agr. News Letter (July 28): In Monroe County injury is being found on some early market sand-grown carrots. This is unusual. (August 11): Flies of the second brood started emerging July 31 and came out rapidly for a few days. Less numerous early this week.

CARROT WEEVIL (Listronotus latiusculus Boh.).

Nebraska. O. S. Bare (August 13): Infested carrots were submitted from Richardson County on July 21.

BLACK SWALLOWTAIL (Papilio polyxenes F.)

Maine. H. B. Peirson (August 26): Small number of nearly full-grown larvae were found feeding on foliage of carrots.

ONIONS

ONION MAGGOT (Hylemya antiqua Meig.)

Minnesota. H. E. Milliron (August 13): Moderately abundant generally at Minneapolis and Saint Paul; very abundant on upland soils in certain localities to the north. Average loss probably does not exceed 5 percent.

ONION THIRIPS (Thrips tabaci Lind.)

Minnesota. H. E. Milliron (August 13): Very abundant throughout the season in Minneapolis and Saint Paul. Blasting especially noticeable on sweet Spanish onion in July and August.

Utah. G. F. Knowlton (August 2): Causing moderate injury to onions at Logan.

RADISHES

APHIDS (Aphididae)

Wyoming. D. T. Snipes (August 11): Severe attack by Myzus persicae Sulz. and Rhopalosiphum pseudobrassicae Davis, starting the last week in July, was suffered by 1,600 acres of seed radishes. In some cases 25-percent damage had occurred within 5 days after first reports of the pest. Populations were extremely heavy.

PARSNIP

PARSNIP WEBWORM (Depressaria heracliana Deg.)

New York. N. Y. State Coll. Agr. News Letter (July 28): Quite extensive damage to parsnips has occurred in plantings near Hicksville in eastern New York. Larvae started eating in the crowns about June 25.

SWEETPOTATO

ARGUS TORTOISE BEETLE (Chelymorpha cassidea F.)

Florida. A. N. Tissot (August 27): Seriously damaging sweetpotato vines being grown as an ornamental at Saint Augustine, on July 19.

Mississippi. C. Lyle, et al. (August 23): Damaged some leaves of sweetpotato in Choctaw and Webster Counties.

SWEETPOTATO SAWFLY (Sterictiphora cellularis Say)

Mississippi. C. Lyle, et al. (August 23): Adults and larvae collected from sweetpotatoes in Pearl River County where they were defoliating the plants.

BEETS

BEET LEAFHOPPER (Eutettix tenellus Bak.)

Utah. G. F. Knowlton (July 28): Much less curly top caused in Weber and Box Elder Counties than at this time last year. (August 13): Only 2 to 5 percent of the tomato plants examined at Clearfield and Slaverville have been killed by curly-top.

SPINACH LEAF MINER (Pegomya hyoscyami Panz.)

Ohio. T. H. Parks (August 26): Caused serious damage to a few fields in Putnam County, northwestern Ohio.

Minnesota. H. E. Milliron (August 13): One heavy infestation on spinach at Saint Paul.

PEPPER

PEPPER WEEVIL (Anthonomus eugenii Cano)

Arizona. C. D. Lebert (August 25): Heavy infestation of the pepper weevil in a pepper field in northeastern Phoenix. Adults are abundant. (Det. by C. D. Lebert.)

TOBACCO

HORNWORMS (Protoparce spp.)

Pennsylvania. B. F. Coon (August 9): Emergence of first-generation adults of P. quinquemaculata Haw. on tobacco started on August 1 at Lancaster and has steadily increased to date. By trap records this date is 14 days earlier than in 1940.

Tennessee. L. B. Scott (August 20): P. sexta Johan. and P. quinquemaculata have been much less than normally abundant during the entire season in the north-central part of the State.

TOBACCO FLEA BEETLE (Epitrix parvula F.)

Tennessee. L. B. Scott (August 20): Caused moderate damage to tobacco in the north-central part of the State.

C O T T O N I N S E C T S

BOLL WEEVIL (Anthonomus grandis Boh.)

South Carolina. F. F. Bondy, et al. (August 2): Situation remains acute in Florence County even though there are no squares left on the majority of the cotton. Young bolls are being attacked, and in some fields half-grown bolls are almost covered with punctures. More numerous than they have ever been in this part of the State. Where the cotton is still fruiting, it is safe to say that 100 percent of the squares are punctured where no treatment has been applied. (August 23): Not as numerous in the fields in Florence County as they were last week.

Georgia. P. M. Gilmer, et al. (July 26): Increased considerably in untreated fields in Tift, Berrien, and Turner Counties during the week. Migration of the earlier section of the midsummer (second) brood is now well established, although little new oviposition has yet shown up. Infestation increase during the week has been largely due to later emerging members of the first seasonal brood. Early members of the migrating brood began to appear in considerable numbers about July 23, being distinctly noticeable about edges of fields, where tenorial and newly emerged weevils were quite common in blooms. First-brood movement has been the heaviest noted at Tifton in six seasons. Many untreated fields of Upland cotton are now showing close to 80 to 100 percent of squares infested. (August 16): Peak of migratory movement for the second section has passed during this week in Tift and Berrien Counties. Season has unquestionably been the most disastrous from weevil standpoint since the '20's. (August 23): Movement is somewhat decreased in Tift, Berrien, and Lowndes Counties, but still occurring in sufficient numbers to require the usual treatment on sea island. (August 2): Heavy damage continues in Lowndes and Echols Counties. Infestation is as high as 49.0 percent, the highest for last week being 26.6 percent.

O. I. Snapp (August 13): Infestation at Fort Valley, in central Georgia, is heavier than that of an average year.

Florida. C. S. Rude and A. J. Rogers (August 23): Forty fields were examined in Gilchrist, Alachua, Marion, and Lake Counties; the infestations ranging from 0 to 79.5 percent. Weevil is beginning to appear in fields in the southern part of Lake County.

Mississippi. C. Lyle, et al. (August 23): Reported from Choctaw, Hinds, Leflore, Pike, and Yazoo Counties. Very heavy general infestation reported over the State where cotton is grown, and where the plants have stopped fruiting, large bolls are being attacked.

E. W. Dunnam, et al. (August 23): Very plentiful in most fields in Washington County. As many as 500 weevils were collected by a planter on the end plants of a few rows of cotton.

Louisiana. R. C. Gaines, et al. (August 23): During the week there were 575 weevils collected on field flight screens in Madison Parish, as compared with 80 in 1940 and 227 in 1939. Practically all of the young bolls in untreated cotton have been ruined and many of the larger bolls severely injured.

Arkansas. D. Isely (August 25): Caused considerable loss over all of the cotton-producing part of Arkansas except about eight counties in the northeastern part into which the infestations have extended.

Oklahoma. F. E. Whitehead (August 23): Appears to be the most serious it has been in a number of years. Present in large numbers over the southeastern and eastern parts of the Oklahoma Cotton Belt.

Texas. F. L. Thomas (August 20): Infestation increased during the last week, and weevils are damaging a large percentage of the squares and young bolls in unprotected cotton.

K. P. Ewing, et al. (August 2): Two thousand squares were inspected in two untreated prairie fields in the McLennan, Limestone, and Falls Counties area, with an average of 29.95 percent punctured squares, the range being from 10.4 to 49.5 percent.

W. C. Maxwell (August 14): Infestation is general throughout the Coastal Bend Section, with severe damage being done in many fields. Three and 4 adults are readily found in many of the squares and white blooms, with some of the bolls having as many as 30 punctures. Heavy infestation has destroyed only a small acreage in Jim Wells and Nueces Counties. All of the fruit on cotton in an experimental plot, one-fourth acre in size, of sea-island cotton in Kleberg County, was destroyed. (August 26): Infestation in Nueces County continues with much damage in many fields.

C. O. Gingrass (August 20): Injury is heavy because of the late maturing cotton crop at Edinburg, Hidalgo County. Half-grown bolls were stung.

#### COTTON LEAF WORM (*Alabama argillacea* Hbn.)

Georgia. W. G. Williams (August 23): Only a few specimens have been found in Lowndes and Echols Counties.

Florida. C. S. Rude and A. J. Rogers (August 23): Present in most fields and in a few places have become numerous enough to do considerable damage.

Mississippi. C. Lyle, et al. (August 23): First reported in Sunflower County the latter part of July, and soon after from Oktibbeha County. Also reported from Humphreys, Leflore, and Marshall Counties. Light infestations generally have been reported from the northern two-thirds of the State and from Lawrence County farther south.

E. W. Dunnam, et al. (August 9): Scattered in most cotton fields in Washington County. One field of about 4 acres was observed as being severely ragged. Reported that some of the insects are in the pupal stage.

Tennessee. G. M. Bentley (August 12 and 17): Appeared for first time in small amounts in Dyer, McNairy, and Tipton Counties.

Louisiana. R. C. Gaines, et al. (August 2): Reported as very abundant in southwestern Louisiana, and as far west as Welsh. Specimens ranging in size from second instar to about the fifth instar were found near Tallulah on July 30, and in a field near Wisner on August 1. Infestations also reported from Baskin, Shreveport, and Monroe, and as numerous at Ruston.

R. W. Harned (August 20): Reported as present in the vicinity of Church Point, and as far north as Opelousas.

I. J. Bechtel (August 25): Severely stripping cotton of its foliage at Shreveport. Infestation has been relatively earlier and very generally distributed over the State.

-- Arkansas. D. Isely (August 25): Outbreak appears more extensive than that of any previous year, as far as records of this Department indicate. Reported as present in counties scattered over all the State except a group of cotton-producing counties along the western part of the Arkansas River Valley. Injury appears to be most severe along the southern border of the State.

Missouri. L. Haseman (August 14): Heavy outbreak reported at Poplar Bluff, in southeastern Missouri, on August 9. Believed to be the first report of a serious infestation from any of the southeastern counties, although a week ago a moth was taken in a bait jar at Cape Girardeau.

Oklahoma. C. F. Stiles (August 18): Quite generally distributed over the southern two-thirds of the State. Reported as far north as Potcaw and Muskogee on the east side of the State and in the vicinity of Chickasha on the west side of the State. Many of the larvae were full grown on August 16, and a few millers have already emerged in the southeastern portion of the State.

Texas. F. L. Thomas (August 13): New brood is now active and laying eggs. Considerable ragging has been reported from most sections of the State. (August 20): More leafworms have been observed during the last week in central Texas than at any time this season. Eggs and all size larvae were noted in many fields. Severe ragging has been noticed in untreated cotton.

K. P. Ewing, et al. (August 2): Found in many fields in the vicinity of Waco and damaging infestations have been found in several fields in McLennan, Limestone, and Falls Counties. Many larvae were found on August 1 on a farm 3 miles west of Crawford, and certain parts of the

field were almost defoliated. (August 16): Generally distributed throughout the McLennan, Limestone, and Falls Counties area. In some untreated fields the cotton has been almost completely stripped, and many fields have been ragged considerably.

C. R. Parencia, et al. (August 9): Moths were observed in most fields during the last few days of the week in Calhoun County. Leafworms were appearing in a few fields of young cotton in sufficient numbers to warrant control measures.

W. C. Maxwell (August 26): Infestation in Nueces County continues general although light. Some of the fields with the more succulent growth have shown some damage during the last few days. (August 14): Infestation is general throughout the Coastal Bend Section, with some fields being partially defoliated. Most specimens are in the pupal stage.

C. O. Gingrass (August 20): Seriously damaged cotton crop at Edinburg, Hidalgo County, owing to late planting. Bolls were not matured and will be seriously damaged by defoliation.

L. W. Noble (August 2): First appearance was noted on July 29 in the Presidio Valley. Light infestations are occurring generally throughout the Valley. (August 16): Infestation is general, but damage has been very light.

New Mexico. R. W. Harned (August 20): Present in lower Pecos Valley during the week ended August 12.

Arizona. W. A. Stevenson (August 23): First specimens found at Marana, Pima County, on August 20. Few small larvae found in several fields at Sahuarita, 20 miles south of Tucson. Very light infestation generally in the Tucson district.

#### BOLLWORM (Heliothis armigera Hbn.)

South Carolina. F. F. Bondy, et al. (August 23): Found in nearly all fields in Florence County, but very little damage is being done.

Georgia. T. L. Bissell (August 6): Larvae damaging squares in Bulloch County, southeastern Georgia. (August 25): Severe damage in one field reported at Americus.

P. M. Gilmer, et al. (August 23): Very serious damage all over the State. Some fields show 20 to 30 percent damage on younger bolls. Third successive year of serious damage.

O. I. Snapp (August 13): Reported destroying bolls at Cochran, in central Georgia.

Florida. C. S. Rude (August 23): Seriously damaging crop of sea-island cotton in Marion, Alachua, and Gilchrist Counties, and reports of serious damage are coming in from other sections. Appeared in large numbers within the last 2 weeks. Very light infestation in Lake County as compared with a serious infestation last season.

A. N. Tissot (August 27): Very numerous and causing much damage in Alachua, Hamilton, Marion, and Washington Counties.

Mississippi. C. Lyle, et al. (August 23): Larvae from cotton have been received from Coahoma, Leflore, Noxubee, and Tallahatchie Counties, and damage has been reported from Lawrence County and the Meridian area.

E. W. Dunnam, et al. (August 23): Causing great concern throughout the Delta; 30 to 50 percent boll damage reported in spotted infestations.

Louisiana. J. J. Beenol (August 25): Has built up beyond control in many fields in the Shreveport and Red River Valley area in northwestern Louisiana. Counts during the last week have shown infestations as high as 85 percent. Large bolls are severely damaged.

Oklahoma. C. F. Stiles (August 18): Reported as worst infestation ever seen by the writer in Bryan and McCurtain Counties, where as much as 50 percent of the squares and young bolls in some fields are damaged.

Texas. F. L. Thomas (August 6): Causing severe damage throughout the greater part of the State. One-third to nearly all of the squares and bolls on plants in many fields in the central blackland area have been destroyed. Eggs and young larvae are still prevalent. (August 13): Damage is appearing along coastal areas.

K. P. Ewing, et al. (August 2): Tremendous increase of eggs and larvae during the week, and enormous amount of damage has been reported throughout the McLennan, Limestone, and Falls Counties area. Several fields were inspected in Limestone County on August 1, close to Mart and Thornton, where larvae had done a great deal of damage. One 200-acre field of fairly old cotton showed approximately 80 percent of the forms injured, with most of the larvae nearly full grown. Remainder of the bolls on the plants will no doubt be stripped before the larvae mature. Similar damage reported from the vicinity of Georgetown and Granger. While there are scattered infestations of large larvae in many fields around Waco, most of the infestation in this immediate vicinity consists of eggs and newly hatched larvae.

C. R. Parencia, et al. (August 23): Continue to do damage in fields of young succulent cotton. Several fields observed were severely damaged.

L. W. Noble (August 23): Found in all fields visited around Presidio, but damage has not been as great as in previous years.

W. C. Maxwell (August 14): Infestation rather severe in many fields in Nueces County. Reported as being more numerous than for several years.

Arizona. W. A. Stevenson (August 9): Found in every field in the Marana section, Pima County, but infestation is not considered serious.

## CABBAGE LOOPER (Autographa brassicae Riley)

Texas. W. C. Maxwell (August 14): A few specimens of A. brassicae have been observed on leaves of cotton in Nueces County although they were not numerous enough to cause any damage. Reported as doing some damage to cotton in Nueces County in 1940.

## COTTON LEAF PERFORATOR (*Bucculatrix thurberiella* Busck)

Texas. W. C. Maxwell (August 26): Present in many of the cottonfields of Nueces County since about August 10. Some damage has been done with many of the stalks around the edges of the fields showing a ragged condition near the top of the stalk. Pupation occurring on the base of the plant and on debris around base of the stalks. Adults now very numerous with many being observed on the screens and even in residences.

R. K. Fletcher (August 26): Present on cotton in Nueces County on August 11.

COTTON FLEA HOPPER (*Psallus seriatus* Reut.)

Oklahoma. C. F. Stiles (August 18): Reported as only about 50 percent as severe as it was 2 weeks ago. Considerable migration into the fields.

Texas. K. P. Ewing, et al. (August 23): No particular injury noted, but insect is still present in McLennan, Limestone, and Falls Counties area.

W. C. Maxwell (August 14): Few specimens can still be found in cottonfields in Hueces County, but infestation is very light.

Arizona. W. A. Stevenson (August 9): No specimens found on cotton in Pima County, but a maximum of 420 being collected per 100 net strokes on croton.

## APHIDS (Aphididae)

South Carolina. F. F. Bondy, et al. (August 2): More numerous than during any year for some time. Untreated cotton in almost any field is covered with honeydew. Many untreated fields are more severely infested with leaf aphids than the average treated field is most seasons.

Georgia. P. M. Gilmer, et al. (August 9): Aphids are increasing rapidly in Tift and Berrien Counties. Treated cotton is very heavily infested, and all cotton carries a fairly heavy infestation. (August 23): Aphids are still very high on treated fields in Tift, Berrien, and Lowndes Counties, most of which are showing serious defoliation due to aphid damage. Slightly less in numbers on the sea-island plat series than during the previous week, owing to heavy rains.

T. L. Bissell (August 25): Aphis gossypii Glov. continues to be injurious in the area west of Atlanta. Reported on August 18 as damaging from one-third to one-half of a crop at Dallas.

O. I. Snapp (August 8): A. gossypii is very abundant in some fields of cotton at Fort Valley, in central Georgia, and is causing considerable defoliation.

Florida. C. S. Rude and A. J. Rogers (August 23): Aphids are present in most fields in the sea-island-growing section, and in many they are causing some damage. Predators and parasites have increased in a few cases. Treated fields are heavily infested.

Mississippi. C. Lyle, et al. (August 23): A. gossypii reported from Bolivar, Holmes, Madison, Montgomery, Panola, and Yalobusha Counties. Infestations were heavy on treated cotton in the southwestern counties, the Meridian area, and Rankin County, and light in the Grenada territory and the northeastern counties.

R. L. McGarr, et al. (August 16): Very bad in some of the treated areas at State College.

Louisiana. R. C. Gaines, et al. (August 2): Aphids increased in both treated and untreated plots. Population is heavy in some of the untreated plots in Madison Parish and very heavy in many plots which have been treated. (August 9): Aphids have increased in most plots in Madison Parish, regardless of treatment. (August 16): Aphids increased in most plots during the week, and infestations were present in both treated and untreated plots in Madison Parish. (August 23): Infestation appears to be about the same as a week ago in Madison Parish.

I. J. Beclen (August 25): Cotton aphid has built up in tremendous numbers in the Red River Valley section and has caused excessive defoliation in several fields.

Arkansas. D. Isely (August 25): A. gossypii has caused injury following treatment for the boll weevil in localities scattered over the greater part of the State. No extensive injury.

Texas. K. P. Ewing, et al. (August 16): Rather a distinct and widespread increase of aphids throughout the McLennan, Limestone, and Falls Counties section during the week. Aphid infestation borders on damage point in many treated fields, and may be found in fairly large numbers

in some untreated fields.

C. R. Parencia, et al. (August 23): Aphids increased in most fields of cotton in Calhoun County. Many of the leaves have a curled appearance and bottom leaves are being shed. Many open bolls are covered with honeydew.

W. C. Maxwell (August 14): Aphids are present in many of the cotton fields in Nueces County, with some of the infestations being very heavy. Predators, in particular, and parasites, are very noticeable. Reported that honeydew is very bad on some treated fields.

Arizona. W. A. Stevenson (August 23): Still present in large numbers in practically all cotton fields in the Marana section, in Pima County. Infestation has been very persistent and no parasites have been present. Heavy infestation is confined to the Marana section.

RAPID PLANT BUG (Adelphocoris rapidus Say)

Florida. C. S. Rude and A. J. Rogers (August 2): Causing serious damage in two fields in the sea-island belt.

Texas. K. P. Ewing, et al. (August 9): Continuing to do damage in some fields in McLennan, Limestone, and Falls Counties.

TARNISHED PLANT BUG (Lygus pratensis oblineatus Say)

Arizona. W. A. Stevenson (August 9): Causing commercial damage in a field of cotton south of Tucson, in Pima County.

WHITEFLIES (Alcyrodiidae)

Mississippi. E. W. Dunnan (August 2): Increasing and doing as much damage to cotton plants in some fields in Washington County as aphids, which have increased rapidly in all fields. (August 16): Causing a great deal of damage to cotton in some fields in Washington County. Infestations are more spotted than those of aphids. (August 23): Whiteflies are causing serious damage in scattered locations in Washington County.

A MEALYBUG (Phenacoccus cevalliae Ckll.)

Arizona. J. L. E. Lauderdale (August 7): Severe infestation on cotton in the Laveen area. Ladybird beetles are also numerous.

FOREST AND SHADE - TREE INSECTS

GYPSY MOTH (Perthetria dispar L.)

General. A. F. Burgess (August 2): Indications are that there will be a marked reduction from the total reported for last year in the number of acres of woodland showing from slight to complete defoliation in Maine and New Hampshire. In Massachusetts there has been a decided increase over that recorded for 1940. The few towns examined in Connecticut show no defoliation, with the exception of a very few white oak trees located in a group of towns in the extreme southeastern corner of the State. There has been a slight increase over last year in the amount of defoliation in Rhode Island. One infestation has been found in South Canaan and one in Salem Townships, in Wayne County, Pa. At the South Canaan infestation the bulk of egg clusters were found on a large willow tree where 1,800 egg clusters had been treated up until July 30. The infestation at Salem is located in a group of 9 old apple trees with large cavities and otherwise in poor condition.

FALL WEBWORM (Hyphantria cunea Drury)

Vermont. H. L. Bailey (August 29): Generally abundant throughout the State.

Massachusetts. A. I. Bourne (August 28): Somewhat more abundant generally over the State than last year. Particularly true in the eastern part of the State.

Rhode Island. B. Eddy (August 28): Rather heavy throughout the State.

Maryland. G. Myers (August 30): More abundant on my farm just east of Rockville, Montgomery County, than at any time for 5 years. One small apple tree has been completely defoliated.

Virginia. A. W. Woodside (August 23): Very common on walnut in Augusta, Rockbridge, Rockingham, and Highland Counties. Also observed on plum, cherry, hickory, and ash. Larvae now half grown to full grown.

Ohio. E. W. Mendenhall (August 11): Quite bad on wild cherry, willow, and apple trees, in central and southern Ohio, especially on old neglected apple trees.

Missouri. A. C. Burrill (July 23): Injury present on elm at Jefferson City.

Mississippi. C. Lyle, et al. (August 23): Much less numerous in the Grenada territory than last year and only a few colonies have been observed on hickory, persimmon, and pecan trees.

Texas. W. C. Maxwell (August 14): Reported reinfesting mulberry trees on some property in Robstown. This place was heavily infested earlier and it is believed that the present infestation is a new generation, possibly the second. Trees involved put on new foliage during the interim between infestations.

BROWN-TAIL MOTH (Nygmia phaeorrhoca Donov.)

Maine and New Hampshire. A. F. Burgess (July 22): Decidod increase in infestation in sections of Maine and New Hampshire. Several reports have been received this year, as compared with only a very few records of any defoliation last year. Complete defoliation of many orchards reported, particularly where no cutting of webs was done during the winter of 1940-41. In some towns it was so intensive that notable flights of moths were reported, a condition which has not been reported for a number of years.

SADDLED PROMINENT (Heterocampa guttivitta Walk.)

New Hampshire. J. V. Schaffner, Jr. (August 26): During the week of August 4 observations were made by aeroplane of the extent of infestation in the forests in the area near North Conway. It was estimated that probably 4,000 acres were 90 percent defoliated, and as many or more showed a defoliation of 30 percent. Beech trees were fed upon most severely; also fed on sugar maple and birches. Severe infestations were observed on the east side of Mote Mountain, the west side of White Horse and Cathedral Ledges, both sides of Attitash, some on Table Mountain, Bartlett Haystack, and Iron Mountain, in Jackson, and some on Thorn Mountain and on the northwest slope of Kearsarge and Bartlett.

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

North Carolina. C. H. Hoffmann (August 4): Specimens received during late July and early August. Reported as killing small arborvitae trees at Asheville.

Mississippi. C. Lyle, et al. (August 23): Specimens received from Copiah, Hinds, Perry, and Sunflower Counties where arborvitae plants were being injured. Injury reported from Jackson and Grenada territories, as well as from the northeastern part of the State.

Ohio. E. W. Mendenhall (August 6): Quite serious on arborvitae and other evergreens in Wilmington.

Illinois. C. L. Metcalf (August 23): Unusually abundant upon arborvitae and other evergreens in central Illinois.

Missouri. L. Haseman (August 29): Attracted much attention throughout the State since the middle of August. Most of the larvae are now practically through feeding. In southwestern Missouri the infestation is unusually heavy.

Oklahoma. F. E. Whitehead (August 23): Reported as defoliating trees, particularly cedars, in widely scattered sections of the State.

WALKINGSTICK (Diapheromera femorata Say)

Missouri. A. C. Burrill. (August 9): First seen at wooded bluffs of Osage River, Osage County on August 9, and then in Cole County on August 17.

Minnesota. A. G. Ruggles, et al. (August 9): Reported as stripping broadleaf trees and shrubs in north end of Wadena County; also eating corn along the edge of the groves in some places.

ASH

AN APHID (Prociphilus fraxinifolii Riley)

Nebraska. O. S. Bare (August 13): Found infesting leaves of an ash tree in Lancaster County.

AN ASH FLOWER GALL (Eriophyes fraxiniflora Felt)

New Hampshire. E. P. Felt (August 15): Present in injurious numbers on a tree at Temple.

Utah. G. F. Knowlton (August 6): Infesting 2-year-old nursery stock at Logan.

BEECH

BEECH BLIGHT APHID (Prociphilus imbricator Fitch)

Delaware. E. P. Felt (August 15): Abundant and injurious on beech in Wilmington area.

BIRCH

BRONZED BIRCH BORER (Agrilus anxius Gory)

Maine. H. B. Peirson (August 25): Caused widespread damage to yellow and white birch stands throughout northern and eastern Maine. In many areas as many as 10 to 30 percent of the birch is dying.

Ohio. E. W. Mendenhall (August 6): Killing birch trees at Saint Clairsville. Quite bad on large birch trees and nursery stock at Wilmington.

A CASE BEARER (Coleophora salmani Heinr.)

Maine. H. B. Peirson (July 18): Heavy defoliation of trees on Deer Island.

A SCALE (Xylococcus betulae Perg.)

Maine. H. B. Peirson (July 17): Birch aphid quite common causing white birches to turn black at Bar Harbor.

A SAWFLY (Arge scapularis Klug)

Maine. H. B. Peirson (August): Birch sawfly defoliated a small stand of white birch at Seal Harbor on August 18.

A. E. Brower (August): Large numbers reported on birch from Seal Harbor and several points in north-central Maine.

CATALPA

CATALPA SPHINX (Ceratomia catalpae Edv.)

West Virginia. L. M. Peairs (August 22): Unusually abundant throughout the region surrounding Morgantown; larvae observed within the last few days have been very heavily parasitized. Counts on three trees showed more than 90 percent of the larvae with attached cocoons, and during the period of counting parasites were emerging from some of the larvae to form their pupae, so it is probable that the apparent parasitism is not the actual parasitism.

Ohio. E. W. Mendenhall (August 11): Larvae very bad and stripping leaves from catalpa trees in central and southern Ohio.

ELM

ELM LEAF BEETLE (Galerucella xanthomelaena Schr.)

New England. E. P. Felt (August 15): Caused exceptionally severe damage in many communities in New York and New England.

Vermont. H. L. Bailey (August 29): Inspections at Burlington, northwestern Vermont, and Brattleboro, southwestern Vermont, late in July and August showed no sign of a second brood.

Massachusetts. A. F. Burgess (July 22): Reported as very abundant at Great Barrington.

Ohio. T. H. Parks (August 26): Has done unusual amount of damage to English elms in the cities of central Ohio.

Kentucky. M. L. Didlake (August 26): Invading a dwelling house at Nicholasville.

LARGER ELM LEAF BEETLE (Monocesta coryli Say)

Virginia. W. J. Schoene (August 15): Seriously defoliated a row of American elms on the campus at Blacksburg. On August 10 large numbers of the mature larvae were crawling down the tree to pupate and a few beetles are emerging.

ELM BORER (Saperda tridentata Oliv.)

Ohio. E. W. Mendenhall (August 6): Found in some abundance in Moline elms at Wilmington.

ELM SAC GALL (Tetraneura ulmisacculi Patch)

Illinois. C. L. Metcalf (August 23): Specimens received from north-central Illinois with report that they are abundant on foliage of elms and are causing considerable concern in that area.

AN ELM APHID (Myzocallis ulmifolii Monell)

California. P. Simmons (August 14): Infesting elm on campus of Fresno State College. Heavy honeydew deposits on leaves and sidewalk have been noted here for a number of years. (Det. by P. W. Mason.)

A LACEBUG (Corythucha pallida vlni C. & D.)

Vermont. H. L. Bailey (August 29): Abundant on small elms along roadside at Manchester, Bennington County, in southwestern Vermont.

EUROPEAN ELM SCALE (Gossyparia spuria Mod.)

Ohio. E. W. Mendenhall (August 6): Quite serious on red, American, and Moline elms in nursery stock at Wilmington.

Utah. G. F. Knowlton (July 12): Specimens submitted with statement that they have curled elm leaves at Manti. (Det. by H. Morrison.)

Washington. E. J. Newcomer (August 18): Quite common on elm at Yakima.

ELM SCURFY SCALE (Chionaspis americana Johns.)

Nebraska. O. S. Bare (August 13): Infested twigs submitted from Harlan County on July 21.

FIR SAWFLY (Neodiprion abietis Harr.)

Maine. H. B. Peirson (August 8): Heavily infested balsam stands at Five Islands, Boothbay, and Pemaquid.

HEMLOCK

HEMLOCK LOOPER (Elloptia fiscellaria Guen.)

Maine. A. E. Brower (July and August): Specimens of larvae received in collections from over the State.

A GEOMETRID (Nepytia canosaria Walk.)

Maine. A. E. Brower (August): Larvae of the false hemlock looper are widespread and common on both fir and spruce at Augusta.

A SCALE (Fiorinia japonica Kuw.)

New York. E. P. Felt (August 15): Reported as very abundant on hemlock at Rye.

LINDEN

LINDEN BORER (Saperda vestita Say)

New Hampshire. E. P. Felt (August 15): Reported as injuring young lindens at Hudson.

LOCUST

LOCUST LEAF MINER (Chalepus dorsalis Thunb.)

Connecticut. E. P. Felt (August 15): Caused some injury at Westport.

New York. E. P. Felt (August 15): Extremely abundant and injurious at Valatie.

R. W. Dean and O. W. Hammer (August 4): Severe defoliation of black locust trees occurred in Pleasant Valley, Dutchess County. First-brood beetles very abundant, some feeding on oak and birch.

Pennsylvania. N. C. Farr (August 23): Almost total defoliation of black locust in some localities in Lawrence County.

Ohio. E. W. Mendenhall (July 31): Very bad on locust trees in the southeastern counties.

Kentucky. M. L. Didlake (August 26): Caused widespread damage to black locust, whole groves showing brown leaves.

Tennessee. G. M. Bentley (August 5): Beetle is very prevalent on honey and black locusts in most of the counties in eastern Tennessee. Leaves on many trees completely ruined.

Delaware. L. A. Stearns (July 31): Reported damaging locust at Townsend.

COWPEA APHID (Aphis medicaginis Koch)

Utah. G. F. Knowlton (August 7): Extremely abundant and damaging black locust foliage at Garland and Hooper. Attended by ants.

MAPLE

GREEN-STRIPED MAPLE WORM (Anisota rubicunda F.)

Pennsylvania. H. R. Dodge (August 6): Reported attacking sugar maple at Carlisle. Damage not severe.

Missouri. T. E. Birkett (August 29): Second-generation larvae completely defoliated large maple trees in west-central Missouri, the first week in August. Same trees had been defoliated by the first generation of larvae.

COTTONY MAPLE SCALE (Pulvinaria vitis L.)

Montana. H. B. Mills (July): Causing considerable injury to large soft maple tree at Thompson Falls and spreading to small maples and boxelder.

MOUNTAIN ASH

A SAWFLY (Pristiphora geniculata Htg.)

Maine. H. B. Peirson (August 18): Quite generally abundant on mountain ash throughout the State.

OAK

PUBESCENT OAK KERMES (Kermes pubescens Bogue)

Pennsylvania. E. P. Felt (August 15): Somewhat abundant on scarlet oak in the Philadelphia area.

North Carolina. H. Morrison (August 4): Reported as killing large numbers of small twigs in crowns of post-oak trees in Asheville and Oteen. (Det. by H. Morrison.)

RED-HUMPED OAK CATERPILLAR (Symmerista albifrons A. & S.)

Connecticut. A. De Caprio (August 15): Attacking red and white oak at Bloomfield.

A LECANIUM SCALE (Lecanium sp.)

Tennessee. G. M. Bentley (August 22): Present on terminal limbs of oak trees and causing tips to die. Very prevalent in Hamilton County.

PAULOWNIA

IMPERIAL MOTH (Eacles imperialis Drury)

West Virginia. L. M. Peairs (August 22): Larvae fully grown on isolated Paulownia tomentosa at Morgantown.

PINE

NANTUCKET PINE SHOOT MOTH (Rhyacionia frustrana Const.)

Virginia. L. D. Anderson (August 20): Very abundant in several plantings of small loblolly pines at Norfolk.

Nebraska. O. S. Bare (August 13): Cedar twigs damaged by R. frustrana bushnellii Busck submitted from Thomas County on July 17.

RED-HEADED PINE SAWFLY (Neodiprion lecontei Fitch)

Virginia. L. A. Hetrick (August 23): Adults emerging on pine at West Point to lay eggs for second generation.

INTRODUCED PINE SAWFLY (Diprion simile Htg.)

Minnesota. M. W. Wing (August 20): Fairly common on scotch and white pine at Saint Paul, Hamel, Long Lake, and Minneapolis.

A WEEVIL (Pissodes approximatus Hopk.)

Maine. H. B. Peirson (August 24): Injured ornamental red pine at Bangor. Larvae tunneling in main stem. Adults emerging.

GALL APHIDS (Pemphigus spp.)

Utah. W. E. Peay and H. C. Bennion (July 25): P. populicaulis Fitch is infesting numerous leaves of poplar trees at Richfield.

G. F. Knowlton (July 28): P. populicaulis is infesting a large number of leaves on balsam poplar at Roy and Populus deltoides at Trenton and Logan. P. betae Doane has caused galls on poplar leaves at Sunset and Clinton. P. populiniglobuli Fitch has caused galls on numerous junctions of leaf blade and petioles of balsam poplar at Roy and Trenton. (August 16): P. populitransversus Riley is infesting poplar leaf petioles at Logan and Hooper.

POPLAR VAGABOND APHID (Mordwilkoja vagabunda Walsh)

Nebraska. O. S. Bare (August 13): Caused growths on leaves of cottonwood in Sheridan County. Specimens submitted on July 21.

W. E. Peay and H. C. Bennion (July 25): Seriously infesting a few poplar trees at Richfield.

COTTONWOOD LEAF MINER (Zeugophora scutellaris Suffr.)

Texas. R. K. Fletcher (July 25): Present in Deaf Smith County on cottonwood.

A CERAMBYCID (Parandra brunnea F.)

Nebraska. O. S. Bare (August 13): Specimens collected from a boxelder tree and cottonwood stumps in Dawson County on August 9.

REDBUD

REDBUD LEAF ROLLER (Golechia cercerisella Chamb.)

Kansas. H. R. Bryson (July 28): Caused considerable injury to redbud trees. Heavy infestations on ornamental redbuds, combined with unfavorable weather conditions, have resulted in death of many trees, while others have dropped their leaves prematurely.

A MOTH (Norape crotata Grote)

Maryland. W. M. Davidson (August 19): Has been increasing yearly on ornamental redbud trees at Beltsville.

Virginia. M. G. Perrow (August 20): Caterpillar sent from Lynchburg. (Det. by C. Heinrich.)

SPRUCE

EUROPEAN SPRUCE SANFLY (Gilpinia polytoma Htg.)

Maine. H. B. Peirson (August 26): General outbreak is less than last year, but there are still heavy defoliations in some areas. About 10 percent of the larvae in sections of northern Maine have been attacked by a wilt disease.

COOLEY'S SPRUCE GALL (Adelges cooleyi Gill.)

Utah. G. E. Knowlton (August 1): Injured some white and Colorado blue spruce trees on the college campus at Logan.

AN APHID (Neomyzaphis abietina Walk.)

Oregon. F. P. Keen (July 31): Severely defoliated and killed some Sitka spruce trees along the Oregon coast. Similar damage is reported from Washington and Alaska.

SPRUCE MITE (Paratetranychus ununguis Jacobi)

Delaware. L. A. Stearns (July 22): Found heavily infesting California spruce at Middletown.

TREE-OF-HEAVEN.

AILANTHUS WORM (Attova aurea Fitch)

Virginia. L. A. Hetrick (August 8): Feeding observed on Ailanthus and boxelder in Northumberland and King William Counties. (Det. by C. Heinrich.)

Missouri. A. C. Burrill (July 26): Reported as present in epidemic numbers on 100 trees and shoots at one location in Jefferson City.

WALNUT

WALNUT CATERPILLAR (Datana integerrima G. & R.)

Vermont. H. L. Bailey (August 29): Abundant on hickory tree at Grand Isle, Grand Isle County, and Lake Champlain. Many clusters of molt skins and a few larvae were found feeding on August 22.

Ohio. E. W. Mendenhall (August 11): Quite serious on walnut trees and have defoliated some of them in central and southern Ohio.

WILLOW

AN APHID (Chaitophorus viminalis Monell)

Utah. G. F. Knowlton (August 6): Attacking willow near Park City.

A TINGID (Corythucha mollicula O. & D.)

Florida. A. N. Tissot (August 27): Specimens of badly injured willow leaves were submitted from Saint Petersburg on August 22. Only cast nymphal skins were on the leaves, but the insect was apparently the above species.

A PSYLLID (Trioza naura Foerst.)

Utah. G. F. Knowlton (August 21): Specimens damaging willows at Caineville on August 14. (Det. by P. W. Oman.) Specimens of Asaphes americana Gir. (det. by A. B. Gahan) were reared from the above material.

I N S E C T S A F F E C T I N G G R E E N H O U S E

A N D O R N A M E N T A L P L A N T S

CHINCH BUGS (Blissus spp.)

Maine. E. B. Peirson (August 15): Great numbers of B. hirtus Montd. found destroying lawns in Augusta, Belgrade, and Skowhegan, the lawns being entirely brown in some instances.

Vermont. H. L. Bailey (August 29): Small outbreak of B. hirtus in Chelsea, Orange County, central Vermont, principally on grass.

Massachusetts. A. I. Bourne (August 28): Great increases in local infestations of B. hirtus. Reported as most prevalent in Worcester County or eastward, but it has been reported from other sections of the State where local outbreaks have occurred on lawns.

Rhode Island. B. Eddy (August 28): B. hirtus is heavy in lawns throughout Providence.

Florida. A. N. Tissot (August 27): B. insularis Barber has been reported as damaging lawns at Dunedin on July 18, at Lake Wales on July 19, at Jacksonville on August 4, at Tallahassee on August 15, and at Gainesville during August.

#### A BEETLE (Loma sexpunctata Oliv.)

Virginia. Larvae and adults have been very abundant on the Asiatic day flower in the woods on the Experiment Station grounds and have actually killed many plants.

#### PACIFIC FLATHEADED BORER (Chrysobothris mali Horn)

Arizona. C. D. Lebert (August 17): Severe infestations observed on roses and pyracanthas in the Phoenix Area. Several plants were killed and many severely injured.

#### A MITIDULID (Meligethes acnus F.)

Montana. H. B. Mills (July 31): Taken in abundance on snapdragons, sweet peas, and other cut flowers grown in the open at Bozeman. No visible damage but considerably annoying.

#### JERUSALEM CRICKET (Stenopelmatus fuscus Hald.)

Utah. G. F. Knowlton (July 18): Attacking dahlia roots in a garden in the Spring Canyon area of Carbon County.

#### GREENHOUSE WHITEFLY (Trialeurodes vaporariorum Westw.)

Minnesota. M. W. Wing (August 20): Present on tomatoes, gladioli, etc., at Sleepy Eye in Brown County.

#### WHITEFLIES (Aleyrodidae)

Georgia. O. I. Snapp (August 13): Very abundant and causing considerable damage to shrubbery and privet around homes in Fort Valley, central Georgia.

T. Thompson (August 17): Very severe infestation of adults observed in and around various ornamentals at Thomasville.

A LEAFHOPPER (Emoasca sp.)

Texas. W. C. Maxwell (August 14): Caused severe damage to a dooryard planting of morning-glories in Robstown. Some leaves have as many as 40 nymphs and adults per leaf.

AN APHID (Macrosiphum ambrosiae Thomas)

Utah. G. F. Knowlton (August 24): Attacking asters in flower garden at Howell.

COTTONY-CUSHION SCALE (Icerya purchasi Mask.)

Texas. R. K. Fletcher (August 1): Found on pittosporum, althea, and salt cedar in Jefferson County.

OYSTERSHELL SCALE (Lepidosaphes ulmi L.)

Minnesota. M. W. Wing (August 20): Scarce on crab apple at Duluth.

Utah. G. F. Knowlton (July 28): Heavily infesting willow at Roy.

CAMELLIA

TEA SCALE (Fiorinia theac Green)

South Carolina. J. A. Berly (August 22): Quite common and causing damage to camellia plants at Clemson, in the coastal area.

CRAPEMYRTLE APHID (Myzocallis kuhawaluokalani Kirk.)

South Carolina. J. A. Berly (August 22): Rather heavy infestations observed on crepe myrtle at Clemson, in Charleston County, in early August. More abundant than usual.

A WEEVIL (Rhodobaenus tredecimpunctata Ill.)

Georgia. T. L. Bissell (August 25): Many borers on dahlia plants at Griffin on August 8. Several plants have been killed. On August 9, at Atlanta, one large plant wilted after rot at base following billbug work in a few branches. Borers caused accumulation of water in the stem of a large plant with subsequent rot.

Mississippi. C. Lyle, et al. (August 23): Specimens of larva, pupa, and adult were found in the stems of dahlia plants in Jones County on August 19.

EUONYMUS

EUONYMUS SCALE (Chionaspis euonymi Comst.)

New England. E. P. Felt (August 15): Locally abundant in southwestern New England.

Pennsylvania. E. P. Felt (August 15): Locally abundant on euonymus in the Philadelphia area and also in southwestern New England.

Maryland. E. N. Cory (August 23): Present in Baltimore.

Georgia. T. L. Bissell (August 25): Killing euonymus plants at Oxford on August 16.

Mississippi. C. Lyle (August 23): Heavily infested euonymus twigs were received from Alcorn County on August 13.

#### GLADIOCUS

##### GLADIOCUS THRIPS (*Taeniothrips simplex* Morison)

Minnesota. M. W. Wing (August 20): Present on gladioli in Ramsey County and at Litchfield in Meeker County.

Iowa. C. J. Drake (August 5): Specimens taken from gladiolus at Sioux City were sent in on July 2. (Det. by C. F. W. Muesebeck.)

Utah. G. F. Knowlton (August 1): Injuring gladiolus in a garden at Farmington.

#### HAWTHORN

##### COTTON LACEBUG (*Corythucha gossypii* F.)

Maryland. C. Graham (August 15): Present on hawthorn at Upper Marlboro.

#### IRIS

##### IRIS BORER (*Macronoctua onusta* Grote)

Illinois. C. C. Compton (August 23): Caused severe injury to home and commercial plantings in central and northern Illinois. Japanese varieties, which are usually less subject to attack, have suffered severe damage in field plantings in Cook County.

#### JUNIPER

##### JUNIPER WEBWORM (*Dichomeris marginellus* F.)

Ohio. E. W. Mendenhall (August 13): Quite bad on young junipers in nurseries at Ironton, Lawrence County.

MAGNOLIA

MAGNOLIA SCALE (Neolecanium cornuparvum Thro.)

New York. E. P. Felt (August 15): Somewhat injurious on magnolia near Monroe.

ROSE

ROSE MIDGE (Dasyneura rhodophaga Coq.)

Massachusetts. A. I. Bourne (August 28): Rather serious outbreak reported on August 22. Found to be very abundant and blasting the buds and new growth in a large commercial planting of roses being grown under cloth.

ROSE CURCULIO (Rhynchites bicolor F.)

Utah. G. F. Knowlton (July 26): Damaging roses at Randolph and Provo.

LEAFHOPPERS (Cicadellidae)

Utah. G. F. Knowlton (August 4): Seriously damaging rose foliage at Grantsville.

WATERLILY

WATERLILY APHID (Rhopalosiphum nymphaeae L.)

Utah. G. F. Knowlton (August 1): Moved on to water hyacinth when heavily infested waterlily leaves were cut off at Logan.

YEW

STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus L.)

Rhode Island. B. Eddy (July 28): Feeding heavily on bark of yew and dwarf juniper at Lincoln.

ZINNIA

FLOWER WEBWORM (Homeosoma electellum Hulst.)

Minnesota. M. W. Wing (August 20): Fairly common on zinnias at Springfield, Motley, Waverly, and Moorhead.

A LACEBUG (Corythucha arcuate Say)

Texas. W. C. Maxwell (August 26): At Robstown, this species, or a closely related one, is doing noticeable damage to zinnias in a dooryard planting, most of the leaves on several plants being affected. Both adults and nymphs are present in considerable numbers. Earlier infestation of lighter intensity was noticed on these same plants.

I N S E C T S A T T A C K I N G M A N A N D  
D O M E S T I C A N I M A L S

M A N

MOSQUITOES (Culicinae)

Georgia. O. I. Snapp (August 1): Infestation at Fort Valley, in central Georgia, is the heaviest observed at that location by the reporter during a 21-year residence, and is causing much annoyance to inhabitants.

Florida. G. H. Bradley (July 31): Adult Aedes taeniorhynchus Wied. and A. sollicitans Walk. became abundant at New Smyrna on July 19 and caused considerable annoyance during the remainder of the month. Average daily catch for the month was 77 at the laboratory, as compared with catches of 238 in July 1939, and 53 in July 1940.

J. B. Hull (August 5): Mosquitoes, mostly A. taeniorhynchus, were numerous on the island near Fort Pierce during all of July. Some A. sollicitans were also observed. Although adults were numerous no breeding was found in the diked marsh. In the back country, adjacent to grove and range land, Psorophora spp. were much less abundant in July than in previous years.

J. E. Webb, Jr. (August 18): Specimens of Culex salinarius Coq., C. pilosus D. and K., Anopheles quadrimaculatus Say, A. crucians Wied., Aedes taeniorhynchus, A. infirmatis D. and K., A. canadensis Theob., Psorophora columbiae D. and K., and Theobaldia nolanura Coq. were taken in the Camp Blanding area. (Det. by A. Stone.)

Illinois. H. H. Ross (August 23): Rather severe outbreaks associated with salt-water sloughs near oil wells. Dupo suffered most in April and May, and Centralia from mid-July to present time.

North Dakota. J. A. Munro (August 22): Mosquitoes reached their high peak of incidence in late June and remained abundant for several weeks. Following rather heavy rainfall in early August they are again becoming abundant in many sections of the State, with A. vexans Meig. and A. dorsalis Meig. being the predominating species. In a pond near Fargo contaminated by seepage from an adjoining stockyard examined recently, the mosquito larvae were present at the rate of approximately 3,000 per square foot of water surface.

Utah. G. F. Knowlton (August): A. dorsalis and Aedes sp. are abundant and attacking man, cattle, and horses at Flux, Dolomite, Timpie, down Skull Valley, and Burmeister, in Tooele County. On August 13, A. dorsalis were very abundant and annoying at Blue Creek railroad station, Deweyville, Corinne, east Promontory, Petersboro, Clearfield, and Hooper. Some A. nigromaculatus Ludl. were also present in alfalfa fields at Taylor, and on August 16, A. dorsalis were abundant and annoying at Timpie,

Dolomite, west Corinne, Deweyville, Benson, and west Logan. On July 25 mosquitoes were annoying to man on Skull Valley ranches and in City Creek Canyon, and on August 6, A. dorsalis and A. nigromaculalis were very abundant and attacking man, horses, and cattle west of Logan and at Benson. Horses have been dying of equine encephalomyelitis in this area recently, and it is believed that the deaths may be caused by mosquito abundance.

Washington. C. M. Gjullin (July 31): A few specimens of Mansonia perturbans Walk. were taken in traps in two locations in Yakima Valley. This is a new record for the State.

Oregon. E. F. Knipling (July 31): Large population of M. perturbans was found near Scappoose during July. First record in Oregon. Of a total of 128 mosquitoes collected by hand, 84 were M. perturbans, 33 were Anopheles maculipennis Meig., and 8 were A. punctipennis Say, and there was 1 each of Aedes vexans, Theobaldia inornata Will., and Culex tarsalis Coq.

#### FLEAS (Siphonaptera)

Maine. F. C. Bishop (August 27): Cat flea (Ctenocephalides felis Bouche) was reported as badly infesting a house in Grand Lake Stream, Washington County. (Det. by H. L. Trembley.)

• A. E. Brower (July and August): Several reports on fleas in the Augusta area from houses with pet dogs and cats.

Massachusetts. A. I. Bourne (August 28): Fleas reported as invading dwelling houses. Outbreaks often associated with the presence of domestic animals, but in many cases they were entirely independent of them.

Georgia. O. I. Snapp (August 11): Reported as more numerous than usual at Fort Valley.

Tennessee. G. M. Bentley (August 23): Fleas reported from different parts of the State as infesting basements and cellars, in which dogs sleep.

Ohio. T. H. Parks (August 26): Fleas reported as unusually numerous in houses and barns.

Nebraska. C. S. Bare (August 13): Fleas reported as present in houses, chicken houses, hog houses, granaries, and other buildings, in Douglas, Lancaster, and Hamilton Counties during the period from July 16 to August 13.

#### BEDBUG (Cimex lectularius L.)

Georgia. O. I. Snapp (August 11): Bedbugs reported as more numerous than usual at Fort Valley.

Mississippi. C. Lyle (August 23): Reported from Coahoma and Jones Counties.

Nebraska. O. S. Bare (August 13): Specimens received from Cass County. Reported from Dawson and Howard Counties on July 28 and August 11, respectively.

Utah. G. F. Knowlton (August 21): Infesting a home at Lasal.

A GNAT (Chaoborus astictopus D. and K.)

California. A. W. Lindquist (July 31): Considerably more gnats observed at Lakeport than on the east side of Clear Lake, where there have been very few present.

CHIRONOMIDS (Tendipes sp.)

California. A. W. Lindquist (July 13): Unusual number observed dancing along the water's edge on the north end of Lake Pillsbury near the large area of shallow water.

A BOTFLY (Cuterebra sp.)

Virginia. F. C. Bishop (July 19): Full-grown first-instar larva was recovered from the nose of a human. Supposed that the infestation occurred when an insect stung the victim in the nostril on July 8 in a garden in Arlington. Painful symptoms accompanied the infestation. Rabbits, squirrels, and chipmunks frequented the yard. (Det. by E. F. Knippling.)

KISSING BUGS (Triatoma spp.)

Mississippi. F. C. Bishop (July 26): Residents at Sarepta claim to have been stung or bitten by T. sanguisuga Lec. at night, and it is frequently found in beds. (Det. by P. W. Oman.)

California. F. C. Bishop (July 26): T. protracta Uhl. caused considerable pain and discomfort after biting individuals at Red Bluff. (Det. by P. W. Oman.)

TROPICAL RAT MITE (Liponyssus bacoti Hirst)

South Carolina. F. C. Bishop (August 11): Severe house infestation was reported from Southern Pines. Occupants were annoyed and bitten.

AMERICAN DOG TICK (Dermacentor variabilis Say)

Massachusetts. C. N. Smith (July 31): Adults declined sharply during July on Marthas Vineyard.

District of Columbia. F. C. Bishop and H. L. Tremblay (August): Adults are decreasing in numbers. Dogs examined during the season have had few or no ticks attached during the latter part of August. One specimen found on man reported from Seneca on August 23 and another from southern Maryland on August 23 or 24.

Juliet H. Carrington (August 5): One unengorged male collected on a dog, in northwestern Washington, east of 16th Street. (Det. by F. C. Bishopp.)

BROWN DOG TICK (Rhipicephalus sanguineus Latr.)

Kentucky. M. L. Didlake (August 26): Present on dogs and lawns in Louisville and Woodford County.

Missouri. P. C. Stone (August 15): Infestation in a house in Saint Louis was so great that one could see ticks crawling from all directions when the dog walked across the floor of the kitchen. Ticks were also observed to crawl toward the door in the afternoon where the sunlight was shining into the room.

CATTLE

SCREWWORMS (Cochliomyia spp.)

Georgia. T. Thompson (August 4-8): Severe screwworm damage universally reported by farmers visited in south Charlton County. Present on cattle and hogs.

Florida. R. L. Brinkman (August 12): C. americana C. & P. infestation in livestock at Tallahassee is getting more frequent as the summer progresses.

J. B. Hull (August 5): Reported as scarce by cattle owners near Fort Pierce.

New Mexico. J. W. Benner (August 7): C. americana reported as unusually troublesome at Roswell and Lovington.

Mississippi. C. Lyle, et al. (August 23): C. americana reported in outbreak numbers among cows and hogs in Lafayette, Panola, and Tate Counties.

Missouri. L. Haseman (August 20): Maggots of full-grown C. americana were taken from cheek and maxillary sinus of a patient by one of the doctors in the State. (Det. by E. E. Knippling.)

HORN FLY (Haematobia irritans L.)

Utah. G. F. Knowlton (July 28): Annoying cows at Sunset.

STABLEFLY (Stomoxys calcitrans L.)

Utah. G. F. Knowlton (July 28): Annoying cows at Sunset. (August 24): Very annoying to horses and man around barns and corral at Howell, in Box Elder County.

CAPILLATE CATTLE LOUSE (Solenopotes capillatus End.)

North Dakota. F. C. Bishop (August 23): Specimens submitted by J. A. Munro, of the North Dakota Agricultural College, with statement that this is the first case of sucking lice on cattle locally that he has seen in years.

DEER FLIES (Chrysops spp.)

Utah. G. F. Knowlton (August): C. fulvastra O.S. and C. discalis Will. are extremely abundant and viciously attacking man and cattle in the Dolomite-Timpie-Flux areas of Tooele County.

EYE GNATS (Hippelates spp.)

Maryland. H. L. Trembley (August 19): H. pallipes Lw. was present in numbers and annoying a dog at Glenmont. (Det. by D. G. Hall.)

South Carolina. F. C. Bishop (July 31): H. plebejus Lw. and H. pusio Mall. are quite troublesome at Beaufort to persons in this area. Present at times in the center of town and were especially bad at the Marine Base on Parris Island. (Det. by D. G. Hall.)

A HORSEFLY (Tabanus punctifer O.S.)

Utah. G. F. Knowlton (August): Annoying horses at Brigham, Perry, Honeyville, Slaterville, and east Promontory on August 13, and west of Farmington and near Timpie on August 16.

HORSE BOTS (Gastrophilus spp.)

Utah. G. F. Knowlton (August 24): Annoying horses at Howell and Grantsville.

CHICKEN MITE (Dermanyssus gallinae Dog.)

Oregon. E. F. Knipling (August 11): House infestation reported from Portland. (Det. by H. E. Ewing.)

H O U S E H O L D A N D S T O R E D - P R O D U C T S I N S E C T S

TERMITES (Isoptera)

Virginia. L. A. Hetrick (August 12): Reproductive individuals of Reticulitermes hageni Banks were swarming from an infested dwelling in West Point.

Utah. G. F. Knowlton (July 29): Termites are damaging houses at Clearfield and near Ogden. (August 25): Damaging a garage at Logan.

ANTS (Formicidae)

Illinois. C. L. Metcalf (August 23): Solenopsis molesta Say caused a very troublesome and persistent infestation of a residence in Urbana.

Florida. E. A. Back (August 28): S. geminata F. is increasingly abundant at Saint Cloud and surrounding country, swarming over trees, plants, flowers, and fruits.

Mississippi. C. Lyle, et al. (August 23): Specimens of S. xylosteum MacCook were received from Yazoo County on August 5, and specimens of Crematogaster ashmeadi Mayr. were received from Newton County today. Iridomyrmex humilis Mayr are abundant in the infested localities of Hinds County that were untreated last year. Specimens of Monomorium pharaonis L. were received from Harrison County on July 24.

Utah. G. F. Knowlton (July 28): Black ants are injuring a lawn at Ogden. (August 8): Ants attending European elm scales are annoying on a lawn at Logan.

GERMAN COCKROACH (Blattella germanica L.)

Virginia. E. A. Back (August 28): Specimens were received on August 6 from Charlottesville.

Mississippi. C. Lyle (August 23): Reported as present in Marshall, Bolivar, and Washington Counties.

BROWN-BANDED ROACH (Supella supollectilium Serv.)

Virginia. E. A. Back (August 28): Found to be very abundant during August in a house in Norfolk.

Illinois. W. E. McCauley (August 23): Apparently quite common in Rantoul in and near the large Army training school. Also being found more frequently in Champaign-Urbana, 17 miles distant.

Missouri. E. A. Back (August 28): Specimens received from Kirksville, sent July 29, with statement that they are abundant in kitchen cabinets.

FIELD CRICKET (Gryllus assimilis F.)

Arizona. T. P. Cassidy (July 22): Heaviest migration into town of Tucson that the reporter has ever seen. Reported as causing severe damage to cotton in the Casa Grande-Coolidge area, cutting large plants off just above the surface of the ground and ruining stands in several fields.

California. P. Simmons (July 21): Invaded a service station at Fresno, chewing sponge rubber pads and causing a stench in a room where accessories were stored. Reported as numerous at Los Banos and near Mendota.

A CLOTHES MOTH (Tineola walsinghami Busck)

Florida. A. N. Tissot (August 27): Specimen received from Lakeland on July 22, Daytona Beach on July 30, and Perry on August 16.

LONG-HORN BEETLES (Cerambycidae)

Florida. A. N. Tissot (August 27): On July 1, at Gainesville, an adult Eburia quadrigeminata Say emerged from a built-in desk, built about 2 years ago. On July 21, at Hollywood, adults were emerging from baseboards in a house built in 1939, and on July 21, at Fort Myers, they were emerging from door and window casings in a house built 3 years ago. On July 23, at Fellsmere, an adult emerged from a new maple chair, and on August 6, at Lake Worth, adults were emerging from red cypress window sills and door jambs in a house built about 2 years ago.

E. A. Back (August 28): Specimens of furniture borer, E. distincta Hald., were sent from Saint Petersburg on August 13. They had emerged from rustic furniture. (Det. by W. S. Fisher.)

Mississippi. C. Lyle (August 23): Larvae of Callidium antennatum Newn. were sent in from Clay County where they had emerged from the lumber in a new house built of pine lumber. (Det. by W. H. Anderson.)

DRUG STORE WEEVIL (Stegobium paniceum L.)

Rhode Island. B. Eddy (July 31): Light infestation in Providence store.

A BEETLE (Cartodere argus Reitt.)

New York. E. A. Back (August 28): Specimens were sent in on July 24 from Richmond Hill where they were prevalent in a newly renovated house, and on July 31 from New York where they were abundant in a newly completed house. (Det. by L. L. Buchanan.)

LARDER BEETLES (Dermestidae)

Massachusetts. E. A. Back (August 28): Specimens of D. lardarius L. were received August 16 from Lowell.

New Jersey. E. A. Back (August 28): Specimens of the incinerator bug (D. cadaverinus F.) were received on August 6 from a house in Raritan.

Virginia. E. A. Back (August 28): Many adults and larvae of D. cadaverinus were collected on August 21 in an apartment house in Norfolk.

BEAN WEEVIL (Acanthoscelides obtectus Say)

Missouri. L. Haseman (August 29): Reported as numerous during the latter half of August. In central Missouri, weevils have already begun to emerge from dry beans that are still in the gardens.

FIREBRAT (Thermobia domestica Pack.)

Illinois. C. L. Metcalf (August 23): Numerous infestations reported from many parts of the State.

PSOCIDS (Psocidae)

New York. E. A. Back (August 28): Reported on August 5 as very troublesome in a newly constructed 200-apartment house building in Brooklyn.

Ohio. E. A. Back (August 28): Specimens received July 23 from lumber company at Cleveland with statement that they were very abundant in a new house.

Michigan. (August 28): Specimens received on July 23 from Flint. Reported as very abundant in a house completed in February 1941.

CEREAL THrips (Limothrips cerealium Hal.)

Pennsylvania. E. A. Back (August 28): Reported as abundant on walls of house, inside and outside of windows, and even crawling on human beings at Irwin. Specimens received on August 1. (Det. by J. C. Crawford.)

A CIMICID (Cimexopsis nyctalis List.)

Virginia. L. A. Hetrick (August 8): Adults and nymphs were abundant around a mantel in a dwelling at West Point, and had apparently come from an abandoned chimney swift nest in the chimney. (Det. by P. W. Oman.)

Ohio. E. A. Back (August 28): Reported as crawling in great numbers near a fireplace in a house at Hillsboro. Specimens submitted. (Det. by P. W. Oman.)

A PLANT BUG (Lygaeus lateralis Dall.)

Arizona. C. D. Lebert (August 22): Reported as migrating by the millions on the desert in the Phoenix area, and getting into houses and annoying residents.

STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus L.)

Massachusetts. A. I. Bourne (August 28): Reported as present in usual numbers by the last week of July, and invading homes.

Ohio. T. H. Parks (August 26): Specimens received from Lake County, with statement that they were found in a house. (Det. by J. N. Knull.)

Michigan. E. A. Back (August 28): Specimens of B. rugosostriatus Goeze received from a truck farm in Ironwood where house was invaded by droves as dusk fell. (Det. by L. L. Buchanan.)

